

MOCET

IP3072 Smart Office IP Desk Phone User Guide



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Ver: A D/C: 101-0731

FCC Statement

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions in this guide, may cause interference to radio communications. This equipment has been tested and found to comply with the limits for a Class B computing device pursuant to Subpart J of Part 15 of FCC rules, which are designed to provide reasonable protection against radio interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at its own expense, will be required to take whatever measures are necessary to correct the interference.

CE Declaration of Conformity

This equipment complies with the requirements relating to electromagnetic compatibility, EN55022 class B for ITE and EN 50082-1. This meets the essential protection requirements of the European Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Environment

The phone you have purchased, as well as any used batteries must not be disposed of with household waste. You should return these to your distributor if they are to be replaced or disposed of them in an approved recycling center.

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WARNING!



1. Read these installation instructions carefully before connecting the IP phone to its power.
2. To reduce the risk of electric shock, do not remove the cover from the IP phone or attempt to dismantle it. Opening or removing covers may expose you to dangerous voltage levels. Equally, incorrect reassembly could cause electric shock on re-use of the appliance.
3. Do not expose the IP Phone to Fire, direct sunlight or excessive heat.
4. Do not expose the IP Phone to rain or moisture and do not allow it to come into contact with water.
5. Do not install the IP phone in an environment likely to present a THREAT OF IMPACT.
6. You may clean the IP phone using a fine damp cloth. Never use solvents (such as trichloroethylene or acetone), which may damage the phone's plastic surface and LCD screen. Never spray the phone with any cleaning product whatsoever.
7. Take care not to scratch the LCD screen.
8. The IP phone is designed to work in temperatures from 5°C to 40°C.
9. The IP phone must be installed at least 1 meter from radio frequency equipment, such as TVs, radios, hi-fi or video equipment (which radiate electromagnetic fields).
10. Do not connect the LAN port to any network other than an Ethernet network.
11. Do not attempt to upgrade your IP phone in an unstable power environment. This could cause unexpected issues.
12. Do not work on the system or connect or disconnect cables during lightning storms.
13. Children don't recognize the risks of electrical appliances. Therefore use or keep the phone only under supervision of adults or out of the reach from children.
14. No repair can be performed by the end user, if you experience trouble with this equipment, for repair or warranty information, please contact your supplier.

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About this Guide

This guide explains how to use the basic features of your new IP3072 phone. Not all features listed are available by default. Contact your system or network administrator to find out which features and services are available to you on your system.

Your System Administrator has the ability to customize some features on this phone. For information on more advanced settings and configurations, administrators should refer to the IP3072 Smart Office IP Desk Phone Administrator Guide.

1. Introduction

The MOCET IP3072 Smart Office IP Desk Phone is an Internet telephony phone that connects to an Ethernet network rather than a traditional PSTN line. Basically, it can be used as an extension phone in an office or stand alone phone at home. To function, it must be registered to an IP PBX, VoIP Server or ISP/ITSP Soft switch and can deliver high quality voice quality and perform many advanced telephony functions and PBX-equivalent call features.

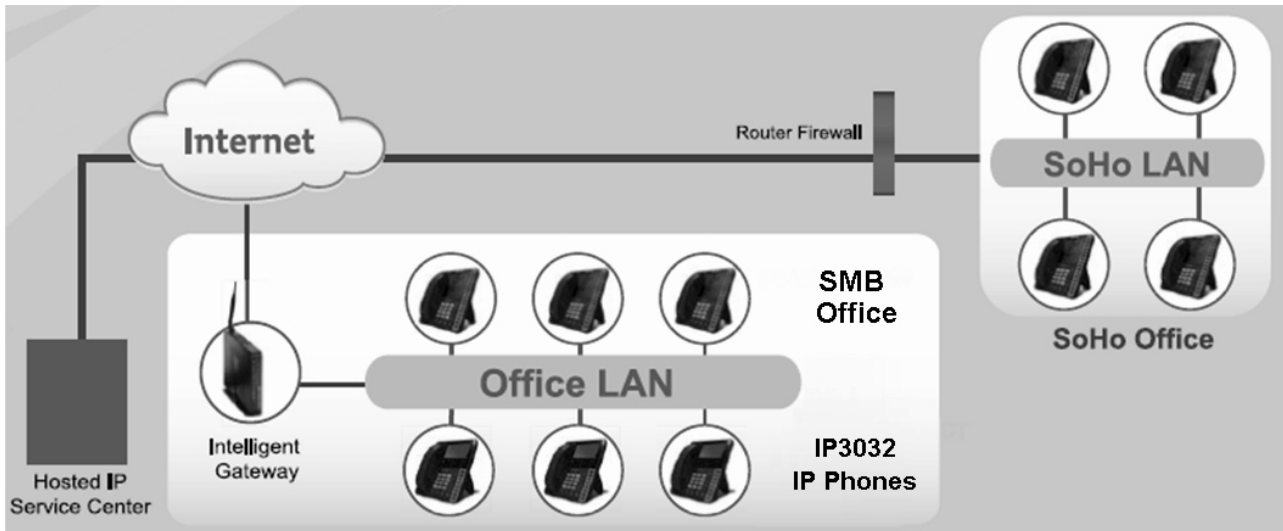
After connecting the phone to the network and successful registration to a supported SIP server whether local or remote, users can make, receive and transfer calls over the IP network. The IP3072 contains multiple processors to allowing it to perform multiple phone calls and advanced music and video playback, streaming video, monitor IP surveillance cameras, send and receive instant messages and emails, and access and display XML-based apps and more. The power of the IP3072 improves the productivity of your workers and increases communication efficiency and flexibility, while delivering an excellent touch based user experience for business communications.

The IP3072 Smart Office IP Desk Phone is an easy-to-use but sophisticated desk phone with many advanced features including support for secure calling with trusted layer security (TLS) and Secure Real-time Transfer Protocol (SRTP), a built-in IP Security (IPSEC) virtual private network (VPN) client. Furthermore, its audio system has been improved not only for wide band HD(High Definition) voice call, but also with the super wide band music play quality.

The IP3072 supports six lines and 12 call appearances to satisfy even the busiest users. Utilizing a next generation resistive touch 4.3" LCD screen and capacitive sensitivity control panel design, the touch-based user interface simplifies even the most complicated calling features. The IP3072, it can be positioned with multiple tilt angles with a wall mount option as well, has a built-in two port Gigabit Ethernet switch with Class 2 and 3 power over Ethernet (PoE) support, and eight programable keys. The IP3072 supports local programming through a web browser as well as local and remote auto configuration through the MOCET auto-provisioning system and management protocols,

The IP3072 supports many supplementary features including call hold, transfer, forwarding, 3-way conferencing, WMI, CWI, music-on-hold (MOH), do not disturb (DND), and auto-answer and is compliant with industry-standard SIP protocols and many servers including those based on Metaswitch™, Broadsoft™, Freeswitch™ and Asterisk™. Therefore, the IP3072 can be deployed and used worldwide.

The IP3072 supports HD audio quality on both the handset, headset and speakerphones along with support for wideband codecs including G.722. Connectivity options for the IP3072 include, a dedicated external headset port, USB 2.0 type A port, Micro SD card slot, and an Extended Dial Module (EDM). Up to two EDMs can be connected for a total of 56 programable buttons on the IP3072.



1.1 Phone Features and Specifications

- Complete VoIP and networking protocol support
- Rich supplementary call services and phone features
- HD acoustic hardware design for handset and speakerphone
- G.722 wideband audio codec support
- 6 SIP Lines with 12 call appearances
- 8 programmable keys with LEDs
- Interoperable with Metaswitch, Broadsoft, 3CX, Asterisk, Freeswitch and others
- Auto-provisioning, remote management and security enhancements
- IP camera call auto-search and video play on conditional settings
- Embedded File Browser
- File transfer feature
- Embedded XML service browser
- Embedded multimedia tools (Local video/photo viewer, music player, voice recorder)
- Embedded small application tools (painting board, calendar, world clock, memo pad)

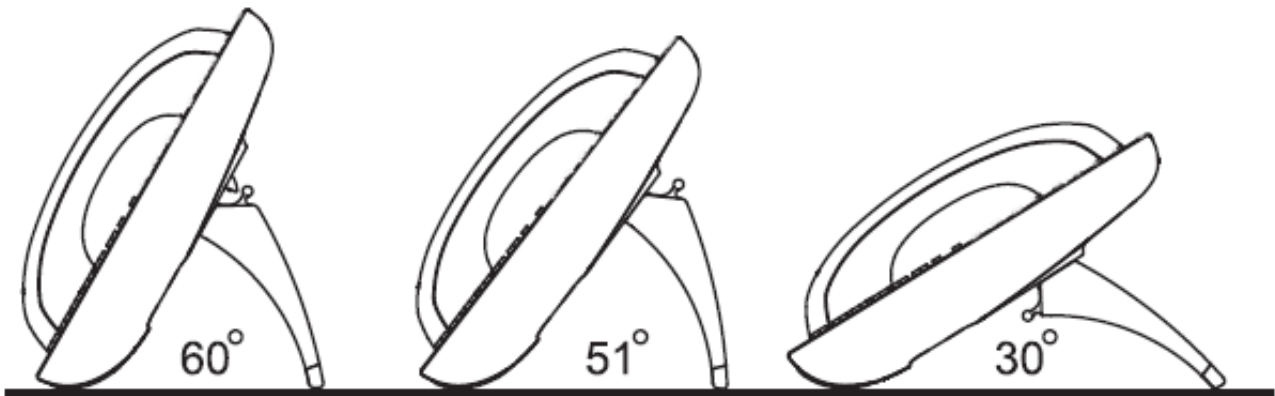
1.2 Requirements

The IP3072 IP Phone requires the following environments:

- Compatible SIP-based IP PBX system or Internet-based hosted SIP service account
- Ethernet/Fast Ethernet LAN (10/100 Base-T)

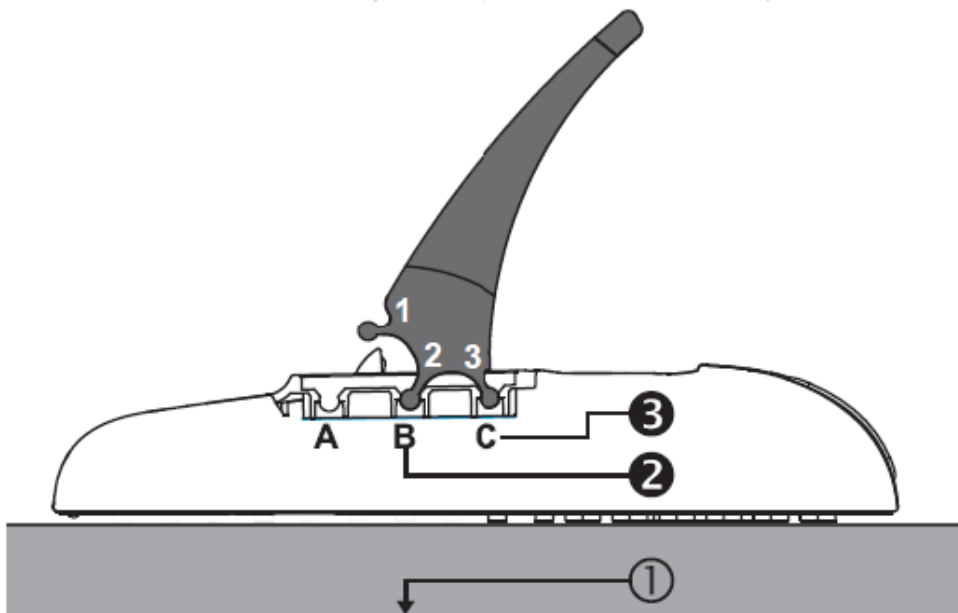
1.3 Installation and Setup

The IP3072 can support three different tilt angles of 60°, 51°, and 30° (see below).



1.3.1 Attaching the Stand to the Phone:

After unpacking the box, attach the stand to the IP3072 phone first. Below this paragraph we illustrate an example below of 60° angle installation with the stand. There are three sets of “antlers” on the top of the stand (named 1, 2 and 3) and there are three sets of mounting slots on the back of the phone (named A, B and C). See the illustration below.



The procedures for attaching the stand to the phone are as follows:

Step 1: Place the main body of the IP3072 face down on your lap or a firm sofa;

Step 2: First snap the “2nd” antler into the slot “B” hole;

Step 3: Then snap the “3rd” antler into the slot “C” hole (it may take a bit of pressure, but when it locks in place, you will hear a click and the stand will not wiggle on the phone.)

For other stand angle, such as 51° and 30°, please refer to the Installation Combination Table below to find correct slots and correct antlers to use.

CAUTION Snapping the slot “B” hole with the antler of stand first is the most important step for a smooth installation. The product sticker on stand should be facing inward towards the phone. When a stand is installed at 60° or 30°, you can rotate the stand between 30° and 60° quickly without pulling the antler in the slot B out.

1.3.2 Detaching the Stand from the Phone:

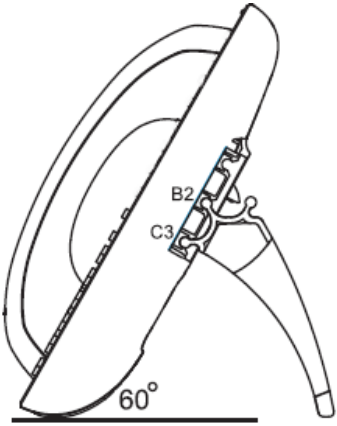
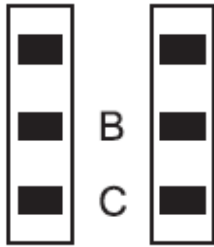
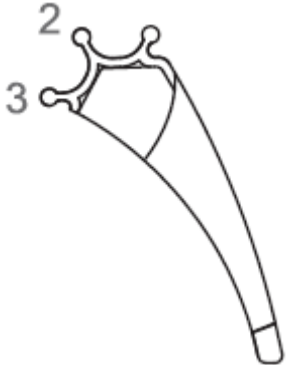
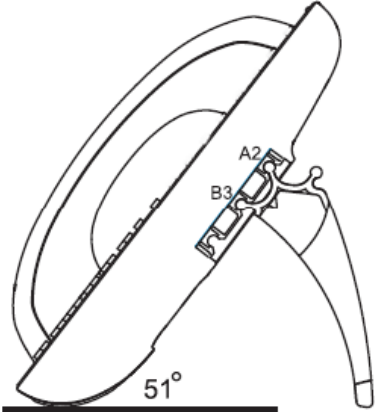
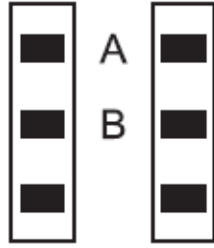
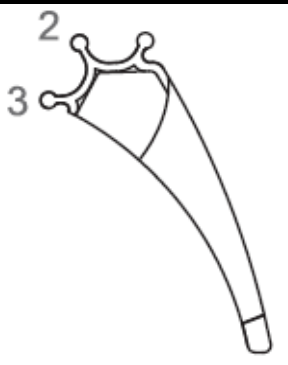
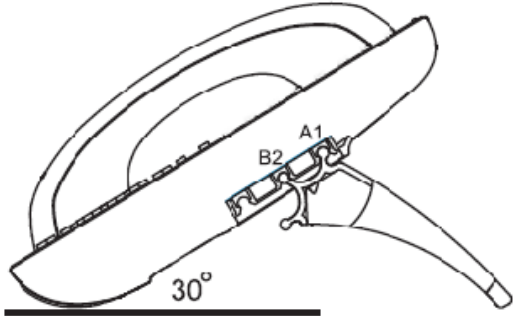
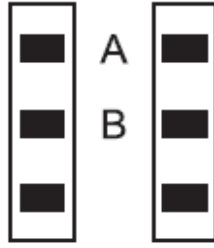
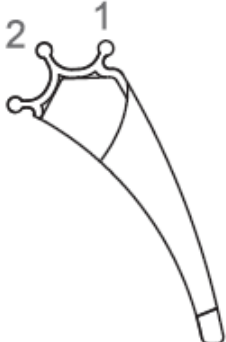
To remove the stand from the IP3072 phone, follow the procedures below (we are using a 60° stand as an example):

Step ①: Place the main body of the IP phone face down in your lap or a firm sofa;

Step ②: Press with one hand on the back of the IP phone and firmly pull the “3rd” antler straight out of the slot “C” hole;

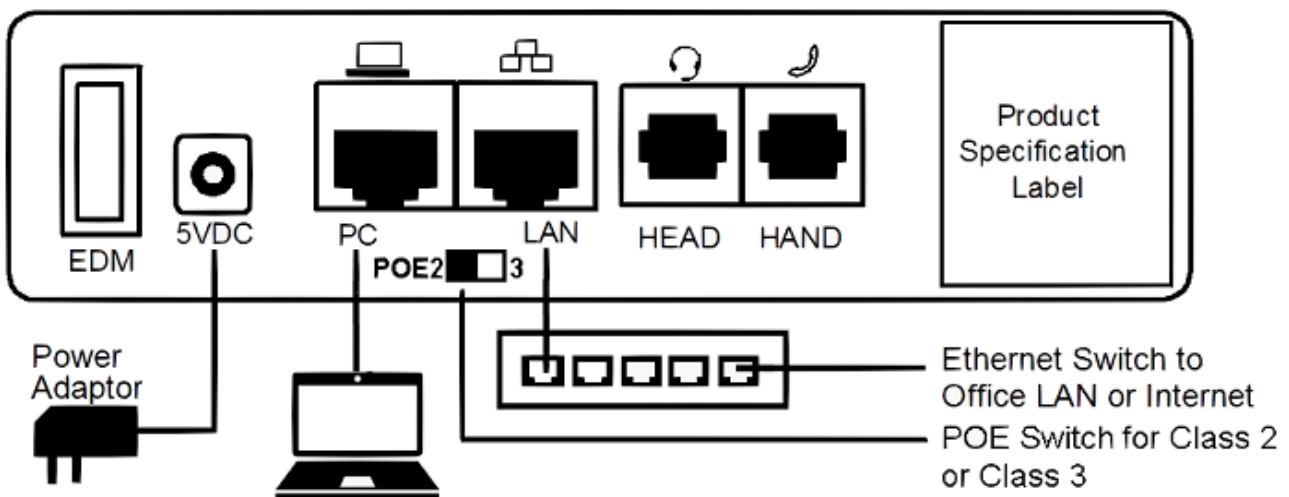
Step ③: Press with one hand on the back of the IP phone and firmly pull the “2nd” antler straight out of the slot “B” hole.

1.3.3 Installation Combination Table:

Different Tilt Angle Installation	Slot Holes on the Back Shell	Antlers of Stand
		
	B	2
	C	3
		
	B	3
	A	2
		
	B	2
	A	1

1.3.4 Connect the Handset and Power Adapter to the Phone:


After unpacking the box, connect the handset to the curly handset cord and then connect the other end of the curly handset cord to the port marked HAND with the handset icon on the bottom of the IP3072. Then connect the included power adapter to the port on the bottom of the phone marked 5VDC. Please make sure you use the right power adapter. It will have a label showing 5V and 2A. In some cases, power will be provided from your network's Ethernet switches and you will not need to use the included power adapter. Please check with your network or site administrator for more details on whether your network supports PoE. The IP3072 PoE power specification is compliant with the IEEE802.3af with Class 2 (or 3) level. Please review the following diagram for more assistance.





1.3.5 Connect the Ethernet Cable:


Using a general CAT-5 Ethernet cable, follow the installation steps below:

If your Ethernet Switch supports PoE:

- Please connect an Ethernet cable to the Switch port from the LAN port  of the IP3072. Then you will see the phone LEDs and buttons light up momentarily and the phone will boot.

If your Ethernet Switch doesn't support PoE:

- Please connect an Ethernet cable to the Switch port from LAN port  of the IP3072. Plug in the included power adaptor to the wall power outlet then plug the barrel plug to the power port  on the back of the phone. You should see the phone LEDs and buttons light up momentarily and the phone will boot.

To eliminate the requirement for multiple Ethernet cables to a user's location, the user's computer can be connected to the network through the second Ethernet port  on the IP3072.

Notice 1: The IP3072 takes just under two minutes to start up and become operational. There are booting screens including progress bar and text descriptions to provide boot progress information. Please be patient.

Notice 2: If the PoE switch (on the rear panel) is set to “2” side, and the IP phone cannot boot up through PoE Ethernet power, it may occur when accessories power loading is over the PoE Class 2 limitation. In the case, please unplug the Ethernet cable, and set the PoE switch (on the rear panel) is set to “3” side, and then plug the Ethernet cable again.

The phone may crash or become malfunctional too, when if its PoE power switch is set at class 2, and its power consumption is increased higher and get over the class 3 range. So, please follow the same above step to change to PoE Class 3 power level.

For your information, most Ethernet cable is carrying PoE Class 2 power. For PoE Class 3 power, please contact your network manager or administrator for power capability confirmation.

1.4 Appearance and Function Description

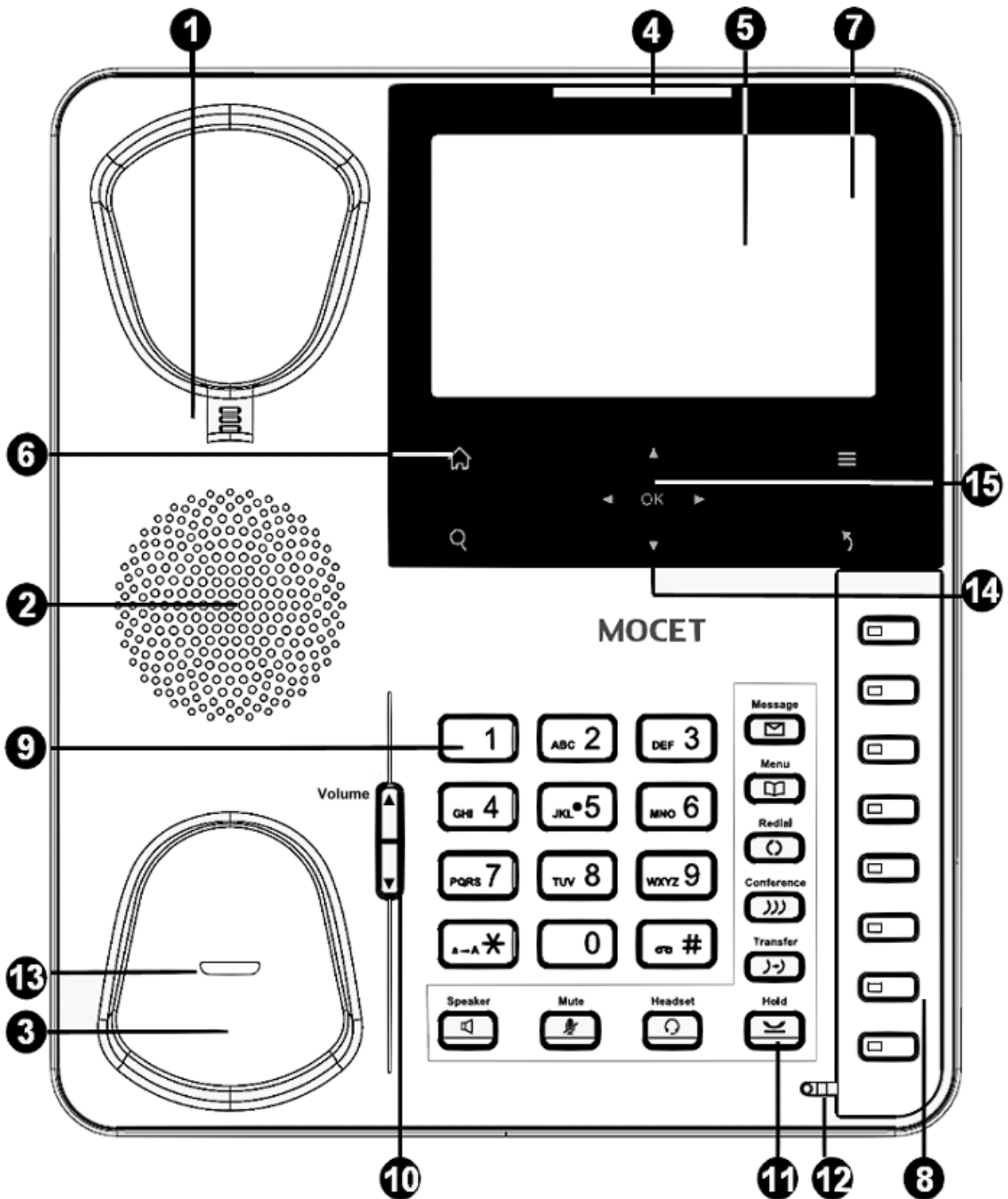
Upon unpacking the gift box, you can find the following items :










- The IP3072 IP Phone main unit
- Handset
- Curly cord for handset
- Stand foot
- Power adaptor
- Quick user guide














Take the IP phone main unit out and look at its appearance for understanding the functions of different parts. The IP phone comes with a resistive touch color TFT LCD screen with 480*272 pixels, 9 capacitive touch keys (including 5 navigation keys), 8 programmable keys, as well as a traditional keypad, 9 function keys and volume key. And all I/O ports are located in the rear panel. And there are several add-on accessories shown below are available for user seperately.


- Wall mount kit
- IP-EDMX : extended dial module with 24 keys/ LEDs
- WR-211N : WiFi 11n Ethernet bridge

The figure below illustrates the front view of the IP3072 IP Phone. With the point numbers, you can find its name and a simple description of specified part in the following table.



No	Part Name	Description
1	Hanger	The hanger can be pulled; it is reversed for wall-mount installation.
2	Speaker	For ring and hands-free talking.
3	Hook switch & Handset bottom cradle	Under the cradle, a hook switch is used for handset hang-on and hang-off detection. The handset bottom cradle is for the placement of handset; placing the handset on the bottom cradle while on a call will end the call.
4	 Message LED	The message LED is for message waiting indication, upgrade alert, Instant message alert, email alert, alert for network off, and so forth.
5	Color LCD Display	The LCD screen is used for displaying phone's settings, phone number, call status, multimedia playback and so forth.
6	4 Control keys	4 sensitive touch keys used for control of the LCD screen. They are Android like design for user easy operation.
	 Home Key	The Home key is for returning to standby idle screen whatever screen phone is in.
	 Menu Key	The Menu key is for exiting from showing screen and go to main menu page.
	 Search Key	The Search key is for accessing XML web services if the XML web server is available.
	 Exit Key	The Exit key is for exiting (going back) from showing screen and go to upper screen.
7	 Line soft keys	The Line keys are located inside touch LCD screen. They are used to indicate the currently registered lines and their status. For operation, user can touch the specific line for call, pickup, or other control. The line 1 is on the top place while the line 6 is on the bottom position.
8	 8 Programmable keys	The Programmable keys are used for programming as different hot keys by setting on menu. A blue LED is associated with each key to indicate its status.
	 Programmable key plate label (DESI)	The programmable key plate label is plastic. For best results, we recommend using a fine permanent marker (such as Sharpie brand) to write on it. It can be cleaned with industrial alcohol. Note: Custom templates and programming software for MOCET phones are available from DESI (see, http://labels.desi.com)
9	 Numeric keypad	[1], [2], ..., [9], [*], [0], [#]: The numeric keypad for dialing numbers.

10	 Volume Key	The Volume Control key used to set the loudness of the ringer, handset and speakerphone functions. While the phone is in idle state, the Ringer is adjustable. While in a call, the Handset or Speaker volume is adjustable.
11	 Speaker Phone key	The SPKR key is used to activate or deactivate the hands-free speaker. When lit with a blue LED, the hands-free function is operational.
	 MUTE key	The MUTE key is used to activate or deactivate the microphone. When lit with a blue LED, the microphone is muted.
	 Headset key	The Headset key is used to activate or deactivate the external headset. A blue LED is lit to indicate active status.
	 Hold key	The Hold key is used to place the active call on hold. A blue LED is used to indicate whether the call is on hold or not.
	 Message key	The Message key is used to access the Voice Mail System for message retrieval.
	 Phonebook key	The Phonebook key is used to enter into the Phone Book menu to call, add, edit or delete a contact in a selected phonebook.
	 Redial key	The Redial key dials the last dialed number automatically.
	 Conference key	The Conference key is used to place multiple calls on the phone into a conference on the phone.
	 Transfer key	The Transfer key is used to transfer a call to another IP phone.
12	 Hands-free MIC	Hands-free MIC hole. Note: You can use a paperclip to pick up the programmable key plate label (overlay) right here.
13	 Handset LED	The Handset LED. To show the phone's status.
14	 Navigation Control keys	The Navigation Control Keys are used for navigating the menus on the phone; menu items are displayed on the LCD screen.

15	 Navigation OK key	The OK button is used to confirm and save a setting on the phone or to dial a phone number.
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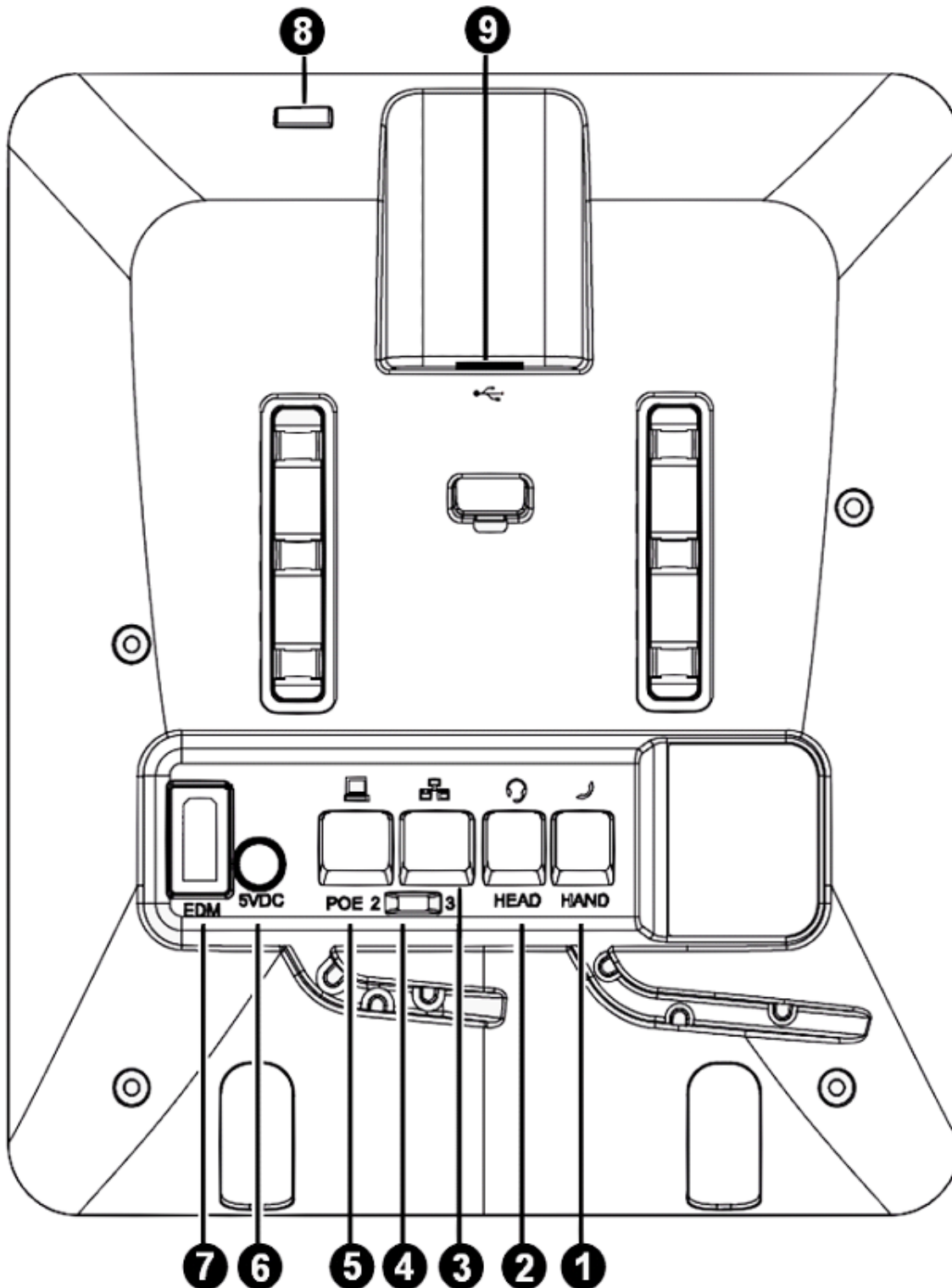
1.5 IP3072 Port Functions

The back side view and the connectors of the IP3072 are as follows:

No	Part Name	Description
1	Handset Connector	RJ-9 jack for connecting handset cord.
2	Headset Connector	RJ-9 jack for connecting headset cord.
3	LAN Port	RJ-45 Jack 1000/100/10Mbps Ethernet port for connecting to the local area network (LAN). This port can support power over Ethernet (PoE) if the LAN switch provides it.
4	POE 2/3 switch	<p>A dip switch that can be set to Class 2 (under 6.49W) or Class 3 (under 12.95W). In general case, Class 2 is enough for the IP phone. When the conditions below:</p> <ul style="list-style-type: none"> (1) Heavy Gigabit Ethernet data transfer and playing video with loudest speaker output (without IP-EDMX and USB dongles) (2) General usage of phone call application but equipped with two IP-EDMX modules. (No USB dongle attached) (3) General usage of phone call application but equipped with one IP-EDMX module and USB dongle that sinks power over 1 Watt. (4) General usage of phone call application but equipped with one USB dongle that sinks over 1.5 Watt (without IP-EDMX). (5) Other conditions that need more power from IP phone.
5	PC Port	RJ-45 Jack 100/10Mbps Ethernet port for connecting to a computer.
6	Power Jack	If an external power source is required, the adaptor is plugged in here. Please use the power adaptor supplied in the package. The power input specification of adaptor is DC 5V 2A.
7	EDM Port	SATA interface for attaching the Extended Dial Module (IP-EDMX) accessory. Up to two IP-EDMX units can be supported with the IP3072. Please refer to IP-EDMX Quick User Guide for more information.
8	Micro SD Slot	This Micro SD Slot can support the IP phone to access or retrieve stored data in the SD card, including music, video, phone book and even firmware.
9	USB Port Type A	USB 1.1 port with 5V/500mA power limitation (Can be used to connect with keyboards.)

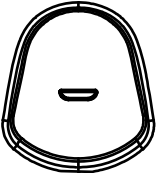




Please refer to the figure below for these I/O port locations on the back shell of the IP3072 phone.

Remarks: There are 2 wiring slots under the I/O ports. One is used for fit Handset cord and the other is used to fit the power adaptor wire.



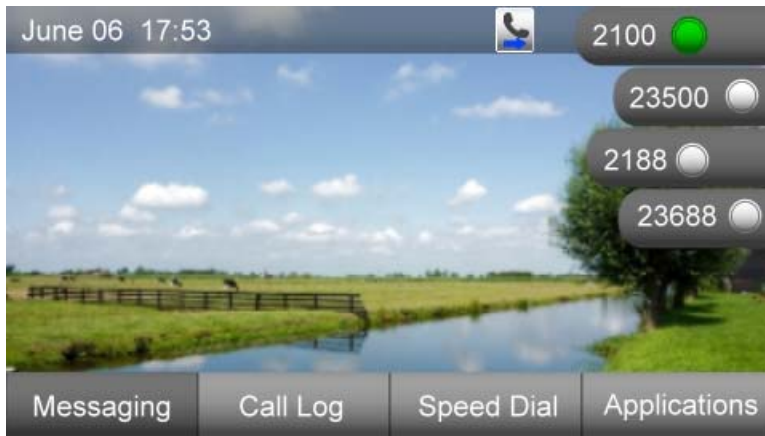
1.6 IP3072 LED Functions

The following table describes all functions of LED indicators:

LED	Color	Status	Description
Message LED	Blue	Off	No new message(s).
		Steady	The phone is booting or upgrading.
		Blinking slow	New message(s) indication.
Programmable LED	Blue	Steady	Feature is set to "ON – Active" or the phone is busy.
		Blinking slow	Incoming call notification.
		Off	Feature is set "Off-inactive".
Hold LED	Blue	Off	No call is on hold.
		Blinking slow	Call is placed on hold.
Speakerphone LED	Blue	Off	Speakerphone is not in use.
		Steady	On-hook dialing or hands-free mode.
MUTE LED	Blue	Off	Microphone is active.
		Steady	Microphone is inactive.
Headset LED	Blue	Off	Headset is not in use.
		Steady	Headset is in use.
 Handset LED	Red	Steady	The phone is booting.
		Flashing faster	The phone is upgrading or urgent call notification; urgent call feature is not available on all phone systems.
		Blinking slow	Link failure, SIP account expiration, or SIP Server not responding.
	Blue	Steady	The phone is in a normal idle state, or is during a call with G.722 codec by handfree or headset.
		Blinking slow	A normal incoming call with wideband G.722 codec notification.
LED Icon on LCD	Color	Status	Description
LCD Line Icons	 Green	Steady	The line registers ok, and is in use.
		Blinking slow	The line is put on hold.
	 White	Steady	The line registers ok, and is not in use.
	 Black	Steady	The line registers failed.
	 3 colors pie (Green, Red, Yellow)	Steady	The line is on a 3-way conference call.
		Blinking slow	The line is on a 3-way conference call, but is put on hold.








1.7 LCD Screen Indicators









The following picture shows the standard LCD display. There are four touch soft keys associated with the operation of LCD display. For different menu or status items, the display items will change accordingly.



1.8 Phone Status Icons





The following table describes line and phone status icons on the main screen:








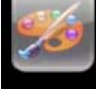
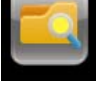
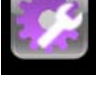

<i>Top Line Icons on LCD</i>	<i>Description</i>
 Network cable disconnected	The icon indicates the network cable is disconnected or broken.
 IP Conflict	The icon indicates the IP address of IP3072 conflicts with other device's.
 Missed call	The icon indicates IP3072 has a new missed call.
 Call forward	The icon indicates IP3072 is enabled "Call Forwarding".
 Auto answer (AA)	The icon indicates IP3072 is enabled "Auto Answer".
 Don't disturb (DND)	The icon indicates IP3072 is enabled "Don't Disturb".
 Voice mail (VM)	The icon indicates IP3072 has new voice mail(s). And the number of new voice mail is showing in "VM Msgs: XXX".




 Instant message (IM)	The icon indicates IP3072 has instant message(s).
 E-mail(EM)	The icon indicates IP3072 has new E-mail(s).
 Wireless signal is good	The icon indicates IP3072 is connected to Wi-Fi access point through Wi-Fi Ethernet bridge, and has good signal strength.
 Wireless signal is fair	The icon indicates IP3072 is connected to Wi-Fi access point through Wi-Fi Ethernet bridge, and has fair signal strength.
 Wireless signal is poor	The icon indicates IP3072 is connected to Wi-Fi access point through Wi-Fi Ethernet bridge, but has poor signal strength.
 Wireless signal disconnected	The icon indicates IP3072 is not connected to Wi-Fi access point through WR211N Wi-Fi Ethernet bridge.
 IP-EDMX connected	The icon indicates IP3072 is connecting with IP-EDMX module(s).
 USB Keyboard connected	The icon indicates IP3072 is connecting with an USB Mini Keyboard.

1.9 IP3072 Icon Function Description

Below table shows all the available icons used in IP3072, their function or applications are also described as follows:

Icons	Function Name	Description
	Contacts	This is Phonebook of the IP phone. It contains public and private contact information.
	Instant Messaging	User can write, send, receive, read and delete the instant messages through this function support. The destination can be one phone number.
	E-mail	User can write, send, receive, read and delete the e-mails through this function support. The destination can be one or more real email addresses.
	Answering Machine	User can read and delete the voice messages through this function support. The voice mail system is in the IP phone, but not in the IP PBX or SIP server.

	IP Surveillance	User can configure IP address and related information of IP Camera(s), then open the video streaming any time for the purpose of surveillance. And IP3072 support special On-condition control mechanism and enable users to utilize IP Cameras for door phone or video-conferencing applications.
	Calendar	This is used for schedule arrangement and personal memo of events.
	World Clock	The world clock supports world wide time zone information that user can read the current time of any location. It is a very convenient tool for users to book meeting time with multiple location parties.
	MemoPad	User can write down memo(s) by input texts and save into the IP phone even during a call.
	XML Browser	Launching this, user can connect to a target XML server and browse its web pages. The XML server can be built in intranet or internet as enterprise news center and bulletin board.
	Multimedia	The multimedia is used for playing music, video and viewing images on the IP phone. Besides, it can support digital photo frame too. Some file formats are supported.
	Alarm Clock	User can use the Alarm tool to set particular time(s) or periodic time(s) to remind users.
	Painting Board	The tool can be used for painting with a finger or proper pen and then save to the storage (Micro SD card) or send to other call party (through his/her phone number).
	File Manager	User can list and find the files in the storage (Micro SD card) or embedded memory of the IP phone.
	General Setting Tool	This is a user level configuration tool.
	Administrator Setting Tool	This is an advanced level configuration tool. Administrator can enter this section with administrator password.

	Help	The help key will display some useful information to user. The information includes Icon description, special call feature operation brief and others.
	Information	The information contains IP phone's IP address, MAC address, firmware version and so on.
	Reboot	When the reboot is pressed, the phone will perform a warm boot action.

2. Getting Started

2.1 Customizing Your IP Phone from Menu

You can customize your IP phone by adjusting the settings including display contrast, ring type, device volume adjustment, call settings, and add, edit or delete contacts in the phonebooks of the IP3072 using the on-screen menus, buttons and navigation keys.

To configure your IP Phone from the menu, you can press Menu sensitive key(≡) under the LCD, the first page of menu icons will be prompted. If you press the “Page Down” soft key, the second page will be displayed too.



You can navigate through the menu with the navigation keys. The following sections will describe how you can setup your IP Phone through this menu. If you require additional information or assistance with your new phone, contact your system administrator.




2.2 Configuring Basic Settings

2.2.1 Volume Setting

You can configure following volume settings:

- Hand-free speaker volume
- Handset speaker volume
- Headset Speaker volume
- Hand-free MIC volume
- Handset MIC volume
- Headset MIC volume

To configure volume:

1. Press **"Menu"**  **→ Page Down**
2. Select **Settings**  **→ Volume Settings.**  Then select which device volume you want to set.
3. Use the **Navigation Up** and **Down** or **Left** and **Right** keys to change the volume levels
4. Press the **Navigation OK** key to confirm the change and exit volume change screen.

2.2.2 LCD Brightness

To configure the brightness of the LCD to a comfortable level:

1. Press **"Menu"**  **→ Page Down → Settings** 
2. Select **Display Settings**  **→ Backlight Brightness**
3. Press **Navigation Up** and **Down** keys to increase or decrease the display brightness
4. Press the **Navigation OK** key to confirm the changes and exit the menu




2.2.3 Call Setting

You can configure following call features:

- Do Not Disturb (DND)
- Auto Answer

- Call Waiting
- Call Completion
- Call Forwarding


To configure those features:

1. Press “Menu”  → Page Down → Settings 
2. Select the **Call Setting** , then select which feature you want to change.
3. Use the **Navigation Up** and **Down** keys to select Enable or Disable
4. Press the **Navigation OK** key to confirm the changes and exit the menu.



2.2.4 Lock Your Phone

Sometimes you don't want other people to use your IP Phone. You can lock your phone and configure a personal identification key (PIN) to unlock the phone.

To change pin number:

1. Press “Menu”  → Page Down → Settings 
2. Select **Phone Lock Settings**  → Change Pin Number
3. Input the new pin number, default is “1234”
4. Press **Navigation OK** key to confirm the change and exit the menu

To lock your phone:

1. Press “Menu”  → Page Down → Settings 
2. Select **Phone Lock Settings**  → Locking Phone.
3. Key in pin number, the default is “1234”
4. Press **Navigation OK** key to confirm the change and exit the menu. You will see our phone is locked.

After phone is locked, hard key pressing and function pressing will take no effect, and can not make outgoing call except emergency call, but answering the incoming call is allowed.

2.2.5 Speed Dialing Setting

The Speed Dialing feature let you store up to 12 phone numbers that you can access easily using a single digit Speed Dial number from 0 to 9, *, and #.

To configure a speed dial number:

1. Press the **Speed Dial** soft-key below the LCD screen
2. Select the speed dial number to configure (from 0 to 9, *, #). And press the **Navigation OK** or **Edit** soft-key to edit the setting, and enter the phone number.
3. Press the **Navigation OK** key to save the changes and exit the menu

In the speed dial table, you may use **Edit** soft-key to modify the existed speed dial item or use **Dial** soft-key to dial out the selected number:

1. Use **More** soft-key to **Save** the edition or **Search** the number in contact list
Use **Save** to save the edition during editing screen
Use **Search** to load a number from contact list
2. Use **Dial** soft-key to dial out the highlighted number

2.2.6 Reboot Your phone

Sometimes you will need to reboot your phone to apply new settings.

To reboot your phone:

1. Press “**Menu**”  → **Page Down** → **Reboot**
2. Press “**Select**” soft-key to reboot your phone.



Note: The IP3072 takes about 2 minutes to startup after rebooting; there will be a series of diagnostic lights on the phone during the process. If your phone does not become operational within 2 minutes, contact your administrator or Service Provider support line.

2.2.7 Managing Contacts

The IP3072 supports four different contact lists:

- All Contacts
- LDAP Directory
- Public Contacts
- Private Contacts

You can store up to 100 **Private Contacts** in your phone's directory, and you can add, edit, delete, dial, or search for a contact in this directory.


Public Contacts are provided for you by the administrator or Service Provider. They can be viewed, and used, but not changed or deleted. For more information, please contact your administrator or Service Provider.

The IP3072 can also access a local or remote **LDAP Directory**. Please contact your administrator or Service Provider for more information on how to enable, configure or access this feature.

The **All Contacts** lets you search and dial a contact from all the configured contacts databases.

There are 2 ways to enter your phone's directory:


1. Press the "**Phone book**" hot key.

2. Press "**Menu**"  **→ Contacts**



2.2.7.1 Adding Contacts

To add a new contact:

1. Go to the **Contacts**  **→ Private**.
2. Press the **Add** soft-key.
3. Enter "**Name**", "**Number**", "**Mobile No.**", "**Home No.**", "**Email**", "**Group**", "**Ring Tone**", "**Gender**", "**Title**", "**Department**", "**Company**", "**Location**", "**Address**", "**Web URL**" from the key pad.

4. Press the **Save** soft-key when you are finished

2.2.7.2 Editing Contacts

To edit your contact:

1. Use the **Navigation Up** and **Down** keys to select the contact your want to edit.
2. Press the **Details** soft key to display the selected contact details
3. Use the **Navigation Up** and **Down** keys to select the fields you want to change.
4. Press the **Edit** soft key to modify the data in the selected field.
5. When finished making changes, press the **Save** soft-key to save the changes.

2.2.7.3 Deleting Contacts

To delete your contact:

1. Use the **Navigation Up** and **Down** keys to select the contact your want to delete.
2. Press **Details** soft-key to display the selected contact details
3. Press **Delete** soft-key to delete the selected contact
4. The contact is deleted from the directory.

2.2.7.4 Placing a Call to a Contact

To dial from a directory:

1. Navigate to a contact (private, public or LDAP).
2. Use the **Navigation Up** and **Down** keys to select the number your want to dial.
3. Press **Details** soft-key to display the selected contact details
4. Use the **Navigation Up** and **Down** keys to select **Number**
5. Press **Dial** soft-key.
6. The phone will dial the number selected.

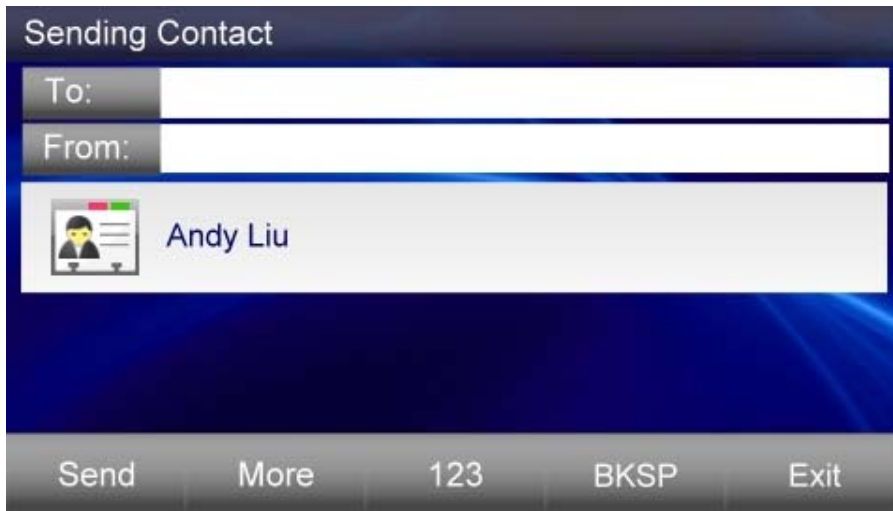
2.2.7.5 Sending a Contact to Remote user

You may send contact information to a phone user at remote side via IP3072 built-in Instant Message.

To send the contact item:

1. Use the **Navigation Up** and **Down** keys to select the contact your want to send.
2. Press **Details** soft-key.
3. Use the **Navigation Up** and **Down** keys to focus on any filed except phone number.

4. Press **Send** soft-key to construct an IM, then enter the targets of “To” and “From”
5. Press **Send** soft-key to sent out the contact to the remote party



Note: This function needs special SIP server which supports SIP SIMPLE Instant Messaging. If the contact sending is not OK, please contact your administrator or Service Provider support line

2.2.8 Managing Call Logs

In the IP3072, there three call logs:

- Dialed Calls
- Missed Calls
- Incoming Calls

The call logs save the last 30 numbers dialed, missed or answered. An example of the All Calls Log is listed as follows:



All	Incoming	Dialed	Missed
Asterisk Conference Room1	12-05	14:09	
Asterisk Conference Room2	12-02	15:18	
Beijing Office	12-02	14:01	
Dial Out Line	12-01	11:10	
HQ Board Room	11-29	11:05	

From the call log lists, you can view, delete, and dial.



To manage the selected call log:

- Use the **Dial** soft-key to redial the call.
- Use the **Delete** soft-key to delete the selected item.
- Use the **Details** soft-key to view information of the call, including call time, call type, call duration, remote number's mobile number, home number, email.
- Use the **Delete All** soft-key to delete all the items under current directory, such as, if focus is "Incoming", it will delete all the incoming call logs.
- Use the **Save** soft-key to edit and save a call log item to the contact list.

2.2.9 Viewing Your Phone's Information

Using the menu of the IP3072, you can check the IP3072 hardware version, firmware version, and network status.

To view this information:




1. Press "**Menu**"  → **Page Down** → **Information** 
2. Use the **Navigation Up** and **Down** keys to view the information.

2.3 Configuring Advanced Settings

2.3.1 Configuring Programmable Keys

The IP3072 has 8 programmable keys, which can be configured for speed dial numbers, phone system features like park, pickup and paging, or to monitor other extensions using busy lamp field (BLF) notifications. From the Menu, you can view the settings for each key. For detailed programmable key's configuration, please refer to section **4.5 Using Programmable Keys**.

To see the setting status:

1. Press "**Menu**"  → **Page Down** → **Settings** 
2. Press **Key Settings** 
3. Select the **FUNC1-FUNC8** to see their settings.

2.3.2 Managing Instant Message

The IP3072 supports SIP SIMPLE Instant Messaging (IM). With a supported service or server, such as Ondo, Partysip, Asterisk (in-session mode), and any SIP proxy or PBX that can forward SIP MESSAGE requests, you can send and receive messages right from your phone using the on-screen dialpad; there is also a way to configure some useful Message Templates, which are pre-made messages for common requests or responses, to simplify use of IM on the IP3072.

There is a message icon and a popup message on the LCD screen when there is a new message received.

2.3.2.1 View messages:

1. Press the **Navigation Left** or **Right** key to focus to "Read".
2. Press **Navigation OK** key to immediately read the message.
3. The message is listed for you to view.


Or

1. Press "**Menu**"  or press **Messaging** soft key.
2. Select **Instant Messaging**  → **Inbox**.
3. All the incoming messages are listed for you to view.

2.3.2.2 Create a new message:

1. Press "**Menu**"  or press **Messaging** soft key.
2. Select **Instant Messaging**  → **Creating Message**.
3. Enter "**To**", "**From**", and **message body**, from the key pad.
4. Press **Send** to send the created message.


2.3.2.3 Delete a message:

1. Press "**Menu**"  or press **Messaging** soft key.



2. Select **Instant Messaging** → **Inbox**.
3. Press **Delete** to delete the message.


Or

1. Press “**Menu**”  or press **Messaging** soft key.



2. Select **Instant Messaging** → **Clearing Messages**.
3. Select **Clearing Inbox Messages**, **Clearing Outbox Messages**, or **Clearing All Messages**.

2.3.2.4 Edit a Message Template

1. Press “**Menu**”  or press **Messaging** soft key.



2. Select **Instant Messaging** → **Text Templates**.
3. Use the **Navigation Up** and **Down** keys to focus the item you want to edit,
4. Press **Navigation OK** to access edit page
5. After edition is finished, press **Navigation OK** key to save it

The IP3072 can save and use up to 30 Message Templates.

2.3.3 Managing E-mails

The IP3072 supports E-mail function. You can use E-mail function to send and receive emails. To use E-mail, the IP3072 must register to an email server. Please contact your system administrator to get an available email account.

2.3.3.1 Setup E-mail Account

1. Press “**Menu**”  → **Page Down** → **Settings**





2. Select **E-mail Account**



3. Enter “**User Name**”, “**Email Address**”, “**Login Account**”, “**Login Password**”, “**POP3 Server Address**”, “**POP3 Server Port**”, “**SMTP Server Address**”, “**SMTP Server Port**” to build an email account
4. Press **Test** to check whether the e-mail account is valid. If it is valid and usable, you can receive a test email from this account itself.

2.3.3.2 Receive E-mail

1. Press “**Menu**”  or press **Messaging** soft key.
2. Select **E-mail**  → **Receiving E-mail**.
 - If there is error when receiving e-mail, a pop up window will display “**Receive Email...Failed**”.
 - If it is successful, popup window will display “**Receive Email...Successful**”.
3. Press **Navigation OK** to close pop up window.

2.3.3.3 View received e-mail:

1. Press “**Menu**”  or press **Messaging** soft key.
2. Select **E-mail**  → **Inbox**.

2.3.3.4 View draft:

1. Press “**Menu**”  or press **Messaging** soft key.
2. Select **E-mail**  → **Draft**.



2.3.3.5 View sent-out e-mail:

1. Press “**Menu**”  or press **Messaging** soft key.
2. Select **E-mail**  → **Outbox**.



2.3.3.6 Delete E-mail

Use **Delete** soft key to delete an e-mail

Or

1. Press "**Menu**"  or press **Messaging** soft key.
2. Select **E-mail**  → **Clearing E-mails**
3. Select "**Clearing Inbox E-mails**", "**Clearing Outbox E-mails**", or "**Clearing Draft E-mails**"



2.3.3.7 Create New E-mail

1. Press "**Menu**"  or press **Messaging** soft key.
2. Select **E-mail**  → **Writing E-mail**
3. Enter "**To:**", "**Cc:**", "**Subject:**" and **email body** from keypad
4. Press **More** soft-key → **Send** to send the e-mail


2.3.4 Managing Answering-Machine Messages

The IP3072 supports local answering machine. You can forward the incoming call to the local answering machine, thus the caller can leave a voice message to you if you haven't received the call.

To view the messages, you can:

1. Press "**Menu**"  or press **Messaging** soft key.
2. Select **Answering Machine**  → **Voice Messages**.
3. All the messages are listed for you to view.

You can record a greeting message for the local answering machine. To record the greeting:

1. Press "**Menu**"  or press **Messaging** soft key.



2. Select **Answering Machine** → **Recording Greeting**.

2.3.5 Managing Surveillance

By connecting to external specific IP cameras, IP3072 can support Surveillance application. You can view and capture video streaming sent from the specific IP camera. To use Surveillance application, please contact your system administrator to obtain IP Camera information.

2.3.5.1 Auto search the IP camera in the same subnet.



1. Press **Applications** soft-key → Select **Surveillance**



or Press Menu  → Select **Surveillance**

2. Available IP cameras in the same subnet will be listed on the screen

2.3.5.2 View the camera IP information

In the Surveillance page, you may use **Details** soft-key to view the camera IP information, including **location**, **IP address**, **login name**, **login password**, **connection mode**, **web port**., **RTSP port**, **RTSP path**.

2.3.5.3 Manual Surveillance camera setting,



1. Press “Menu”  → Page Down → **Settings**




2. Select **Surveillance Settings**
3. Use **Add** soft-key to add new camera item
Use **Edit** soft-key to edit focused item
Use **Delete** soft-key to delete the item
Use **Save** soft-key to save the edition

2.3.6 Backlight Timeout

1. Press “Menu”  → Page Down → Settings 
2. Select **Display Settings**  → **Backlight Timeout**
3. Select the timeout time → Press **Save** soft-key to save the timeout setting

2.3.7 Wallpaper Setting

1. Press “Menu”  → Page Down → Settings 
2. Select **Display Settings**  → **Wallpaper Setting**
3. To custom wall paper, select **User-Defined Wallpaper**, then in the file manager, select a preferred wallpaper file to take effect.

2.3.8 On Conditional Function

On-condition function is for advanced call features. You can make different settings for different call conditions. For example, when you do not want to be disturbed by someone, you can make a setting as below.

1. Select ***Do not disturb*** in the ***Create Conditions from Templates***.
2. Select ***Condition List***, you will see ***Do not disturb***.
3. Press the ***Edit*** soft key to make further settings for ***Do not disturb***.
4. Press the ***Select*** soft key, and then press the ***Next*** soft key.
5. The **Trigger List screen** shows up.
6. Select ***When a call incoming***.
7. The **Condition List screen** shows up.
8. Select ***Condition1***.
9. The **Parameter Selection screen** shows up.
10. Press the ***Select*** soft key.
11. The **Value Input screen** shows up.
12. Enter the phone number of someone you do not want to be disturbed, and then press the ***Select*** soft key to confirm.

13. Press the **Next** soft key.
14. The **Action List screen** shows up.
15. You can select **Reject a call**.
16. The **Parameter for Action screen** shows up.
17. For **Reject a call** option, you do not need to input any parameter, so just press the **Exit** soft key to return to the **On-condition Setting screen**.

To create new OCT,

1. Press “Menu”  → Page Down → Settings 
2. Select **On-Condition Settings**  → **Creating New Conditions**
3. Press Menu->Settings

2.4 Advanced Application

2.4.1 Calendar

Press “Menu”  → **Calendar**  to access calendar application.

- Press **New** to create a new appointment attached with focused date
- Press **View** to view all the appointments attached with focused date
- Press **Edit** to edit item of appointment
- Press **Save** to save the modification of appointment

2.4.2 World Clock

Press “Menu”  → **World Clock**  to access world clock application.

- Press **Bookmarks** to view all the bookmarks.
- Press **MainCity** to view all the main cities of all the zones.
- Press **Bookmarks+** to add a new bookmark.
- Press **Remove** to remove focused bookmark item

On the screen of main city list, you can search some city you wanted by pressing digital keys matched with a city name.

For example, if you want to find “Beijing”,

1. Double press “2”, It will show the city list with heading letter “B” or “b”
2. Double press “3”, it will show the city list with second letter “E” or “e”
3. Press “4” for three times quickly, it will show the city list with third letter “I” or “i”
4. Press “5”, it will show the city list with third letter “J” or “j”, for the main city list only includes one item whose first 4 letters are “Beij”, so the list shows only one item “Beijing”.

2.4.3 MemoPad



Press “**Menu**”  → **Memopad**  to access memoPad Application.


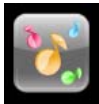


- Press **Add** to add a new memopad item
- Press **Save** to save the input during memo create screen
- Press **Details** to view focused items, including subject and body text.
- Press **Edit** to edit the memo.
- Press **Delete** to delete the memo.

2.4.4 XML Browser

Please refer to administrator guide to see how to setup XML server and how to use the service in XML browser provided by XML server.

2.4.5 Multimedia Player

Press “**Menu**”  → **Multimedia**  to access multimedia application.

The multimedia application includes **video viewer** , **music player** , **photo viewer**  and **voice recorder** .

The soft-key functions used in **video viewer** and **music player** are listed below:




- Press **volume up/down** key to adjust the volume of playing audio.
- Press **Play** to play the video file
- Press **Pause** to pause the video.

- Press **Repeat** to play the multimedia file again.
- Press UP ▲ or Down ▼ to select next or previous file.
- Press **Backward** or **Forward** to jump the playing step.
- Press **Once** to stop playing the music without repeat.
- Press **Repeat All** to repeatedly play all the music files one by one
- Press **Repeat** to only repeatedly play focused music file.
- Press **Stop** to stop the music.

For **photo viewer** application,

- Press **Open** to open focused picture file
- Press **Play** to display the play a music
- Press UP ▲ or Down ▼ to select next or previous picture file.

For voice recorder application,

- Press  to record new file.
- Press  to pause recording.
- Press  to stop recording.
- Press **Files** to view all the recorded files.
- Press **Play** to play the record file
- Press **Delete** to delete the record file
- Press **More** to select “**Copy**” or “**Send**”
- Press “**Copy**” to copy the file to SD card
- Press “**Send**” to send the file to remote.

2.4.6 Alarm Clock

Press “**Menu**”  → **Page Down** → **Alarm Clock**  to access alarm application.

- Press **Edit** to edit the alarm item, including alarm status(on or off), alarm time, repeat mode (Every day or Off), alarm tone type, and note.
- Press **Save** to save the modification.
- Press **Snooze** to pause alarm ring and wait about 5 minutes, the alarm will ring again.
- Press **Dismiss** to stop alarm ring.

2.4.7 Painting Board



Press “**Menu**”  → **Page Down** → **Painting Board** to access painting application.

- Use **Color&Font** to choose painting color(red, yellow, blue, green) and font.
- Use **Color&Font** again to hide the color and font selecting panel.
- Use **More** to select “**Insert Text**”, “**Insert Photo**”, and “**SendFile**”.
- Use “**Insert Text**” to insert a text string to the designated position of painting board.
- Use “**Insert Photo**” to insert a photo from photo list to central of painting board.
- Use “**Send File**” to save the painting board to a file and send the file to remote.
- Use “**Save**” to save the painting as picture.

2.4.8 File Manager




Press “**Menu**”  → **Page Down** → **File Manager** to access file manager to browser files in embedded memory and SD card.

- Use **More** to select “**Back**”, “**Copy**”, “**Delete**”, “**Send File**”, and “**save as custom ring**” if focused file is music file, “**Save as Wallpaper**” if focused file is picture file.
- Use “**Back**” to return to upper directory.
- Use “**Copy**” to copy the file or directory to another file system disk(embedded memory or SD card).
- Use “**Delete**” to delete the file or directory.
- Use “**Send File**” to send the file to remote.
- Use “**Save ad custom ring**” to save the music file as custom ring.
- Use “**Format**” to format the selected disk drive.
- Use “**Save as Wallpaper**” to save the picture file as wall paper.

2.4.9 Network Time Settings

To configure time zone, enable or disable DST(daylight saving time), DST start Month/Day/Time, DST end Month/Day/Time, DST saving time type, you may:



1. Press “**Menu**”  → **Page Down** → **Settings**



2. Select **Display Settings** → **Date and Time Settings**,

If **Auto DST** is enabled, **DST saving type**, **DST start Month/Day/Time** and **DST end Month/Day/Time** are automatically adjusted according to time zone setting.

2.4.10 Door Phone Function

Press “Menu”  → Page Down → Settings  → Select Door Phone 

When a visitor makes a call from the door phone to the office phone, the office phone will display video streaming from the IP camera as soon as it receives an incoming call from the door phone. You can decide to pick up the call or reject the call after you see who is calling.

To use this function, please make all required configuration ready, and enable door phone function.

All required configuration includes:

- **Phone Number:** Enter the phone number of the door phone.
- **Cam IP Address:** Enter the IP address of the IP camera.
- **Cam Web Port:** Enter the web port of the IP camera.
- **Login Name:** Enter the login name of the IP camera.
- **Login Password:** Enter the password of the IP camera.

2.4.11 Video Phone

Press “Menu”  → Page Down → Settings  → Select Video Phone 

You make a call to your colleague. Your IP Phone will display the video streaming from the IP camera aside your colleague's IP Phone as soon as your colleague picks up your call. In the meanwhile, your colleague's IP Phone will display the video streaming from the IP camera aside your IP Phone.

To use this function, please make all required configuration ready on both your phone and your colleague's phone, and enable video phone function on both phones.

All required configuration on **your phone** includes:

- **Phone Number:** Enter your colleague's phone number.

- **Cam IP Address:** Enter the IP address of the IP camera aside your colleague.
- **Cam Web Port:** Enter the web port of the IP camera aside your colleague.
- **Login Name:** Enter the login name of the IP camera aside your colleague.
- **Login Password:** Enter the password of the IP camera aside your colleague.

All required configuration on **your colleague**'s phone includes:

- **Phone Number:** Enter your phone number.
- **Cam IP Address:** Enter the IP address of the IP camera aside you.
- **Cam Web Port:** Enter the web port of the IP camera aside you.
- **Login Name:** Enter the login name of the IP camera aside you.
- **Login Password:** Enter the password of the IP camera aside you.

3. Using Basic Features

The IP3072 Smart Office IP Desk Phone is designed to be used like a regular phone on a public switched telephone network (PSTN). You can place calls, transfer a call to someone else, or conduct a conference call.

The IP3072 supports up to 10 simultaneous calls. However, only one of these calls can be active at a time. The active call is the one you are using to speak or listen to. The inactive calls can be:

- On hold
- Joined in a conference (with up to 3 callers)
- “Incoming call” or “Ringing”

This chapter provides basic operating instructions for the phone including:

- Placing a Call
- Placing an urgent call
- Answering a Call
- Answering an urgent call
- Ending a Call
- Redialing a Number
- Putting a Call on Hold
- Setting Up a Conference
- Transferring a Call
- Forwarding Calls
- Enabling or Disabling Do Not Disturb

3.1 Common Terms

To use the IP3072, you need to follow some conventions that we will mention in this guide. In the following descriptions, we will introduce some common terms for your understanding.

3.1.1 Lines

A “Line” in this guide represents how many phone numbers supported in one phone. For example, the IP3072 can support up to 6 lines configured for the same or different service

providers or servers and even make up to 10 concurrent calls. Therefore, the IP3072 is said to support **multiple line appearances**.

3.1.2 Calls

A “Call” in this guide represents how many simultaneous connections can be made to a single phone number. Each line of service in the IP3072 can support multi calls simultaneously. This allows the user to place one caller on hold and talk to the other person in another call on the same Line. Therefore, the IP3072 phone is said to support **multiple call appearances**.

3.1.3 Register to a server

The IP3072 must be configured before it can perform some basic functions. Although the phone can make a peer-to-peer SIP call by dialing the other user’s IP address (i.e., 192.168.0.12) directly on the keypad, this is inconvenient and it is hard to remember all the IP addresses of phones on the system. This is why a hosted SIP server or local IP PBX implements a Registrar service, which allows the connected phones to find and dial each other more easily by extension numbers or names instead of IP addresses.

In addition, the hosted SIP server or IP PBX helps keep track of active phones, their IP addresses for routing calls, as well as keeping track of which phones are busy or idle. Most hosted SIP services and IP PBXs support direct system service (DSS) as well as showing the busy lamp field (BLF) status of system phones. These allow you to directly dial another extension and can show you whether the other phone is on a call or not.

Usually, the hosted SIP service or IP PBX will also use the Registrar service to send messages to your phone to alert you that you have voicemail. This is called message waiting indication (MWI).

Please refer to Configuration through Menus or Configuration through Web for detail information of how to configure the phone to register to server.

3.1.4 Caller ID

When you receive a call, the caller's phone number is shown on the screen, if the caller has not chosen to hide his number and if the network supports the Caller ID feature. The IP Phone can display both the Caller ID (CLID) and the Caller Name (CNAM) of the caller if it is available. Not all services and servers support CLID and CNAM. For more information about this topic, please contact your service provider or system administrator.

3.2 Installing Your IP Phone

Before placing the phone into operation, either you or your administrator or Service Provider has to install the phone on your network. Please contact your administrator or Service Provider for more details, or refer to the included hardware installation guide.

3.3 Configuring Your IP Phone for Service

The IP3072 must be configured for the hosted SIP service or IP PBX before operation. The phone is usually pre-configured by the administrator or hosted SIP service provider. For an advanced or experienced user, you may refer to the [IP3072 Administrator Guide](#) for full information on how to configure all the settings of the IP3072.

3.4 Line Selection

The IP3072 can support up to 6 lines.

To select a line you can:

Pick up handset, or press the speakerphone key, or press headset key when not on a call, the phone will automatically use the preferred line for the call. If the preferred line is not the line you want to use, you can touch Line Key buttons (on the right side of LCD) to switch to the chosen line.

3.5 Placing a Call






You can place a call in many ways from the IP3072:

- Using the handset
- Using the speakerphone
- Pressing a line key
- Using the headset

You can also dial the number first and then choose the method you will use to dial the other party. This is called pre-dialing. During a call, you can alternate between using the handset or speakerphone modes by pressing the speakerphone key, or picking up the handset while on a speakerphone call. The call duration on an active call is shown on the LCD during the call.

To place a new call:



Operation	Description	
Making a call	 or   Line Key	1. Pick-up the handset or press a line key or press the speaker key. → You will hear a dial tone.
		2. Use the keypad to enter the phone number. → The LCD window displays the digits that you entered and the matching numbers in Contacts. <div style="border: 1px solid black; padding: 5px;"> Note: You may use the <i>BKSP</i> soft key to delete the last digit. </div>
		3. On-hook the handset when your conversation is over.

3.6 Placing an Urgent Call

The IP3072 supports Broadsoft's Urgent Call feature. Please refer to **Section 4.4, Changing Phone Settings** for more information on configuration of this feature.

If your IP phone is enabled for "Urgent Call", when you dial a number, there is an "Urgent" softkey displayed on the LCD screen.





If you press the “Urgent” soft key to dial the number out, the call will be marked as an urgent call. The called party can neither deny nor block the call even the called party’s phone is on DND.

3.7 Adjusting Call Volume

During a conversation, if the voice volume is too low or too high, you may adjust it.

To adjust volume while on a call:

<i>Operation</i>	<i>Description</i>	
To adjust volume while on a call		1. During a conversation, if the voice volume is too low or too high, you may adjust it.
		2. Press the Volume control key Up or Down to adjust the volume of Speaker, Handset, or Headset.

3.8 Canceling a Call

After you dial a call, but the called party has not answered, you can cancel the call by press “**Cancel**” soft key.






<i>Operation</i>	<i>Description</i>	
Canceling a call	“Cancel”	Press “Cancel” soft-key to reject the call. If only the calling call on the phone, you can just press speakerphone or put down handset to cancel the call.

3.9 Answering a Call

When a new incoming call on the phone, you can answer the call by:

- Using the handset
- Using the speakerphone
- Using a headset
- Pressing “**Answer**” soft-key



Operation	Description	
Answering a call	 or  or  or Answer	<p>If there is no other call, just pick-up the handset or press the speakerphone key or the headset key or press the “Answer” soft-key upon hearing the phone ringing.</p> <p>If there is another call, press “Answer” soft-key to accept the call, the previous call will be placed on hold automatically.</p>

3.10 Answering an Urgent Call

When there is an incoming urgent call on the phone, you can answer a call as you would normally; however, some features will be ignored automatically including DND and call blocking.

3.11 Rejecting a Call

When there is an incoming call on the phone, you can reject the call.








Operation	Description	
Rejecting a call	Reject	<p>Press “Reject” soft-key to reject the call.</p> <p>After pressing the “Reject” soft-key, the call will be dropped directly. The record will be logged in answered call list. Other call features are not affected by this operation.</p>

3.12 Ending/Holding/Resuming a Call


When a call is in connected state, you can end a call by:


- Using the handset
- Using the speakerphone
- Using a headset
- Pressing “**Drop**” soft-key



Operation	Description	
Ending a call	 or  or  or End	<p>If there is only one call, just place the handset back into the cradle, press the speakerphone key or the headset key or press “End” soft-key to end the call.</p> <p>If there is another call, press the “End” soft-key to end the call.</p>
Holding a call	 or Hold	Press the “ Hold ” soft-key or Hold key on the phone to place an active call on hold.
Resuming a call	 or Resume	Press the “ Resume ” soft-key or Hold key on the phone again to place an active call on hold.


3.13 Muting and Un-Muting a Call

While in a conversation, you may mute the microphone by pressing the **MUTE** () button. The LED of the button will become blue. When muted, the other caller will not hear anything from your phone.

Pressing the **MUTE** () key again will Un-Mute the phone.

3.14 Redialing a Number

To redial the last numbers you dialed:


1. Press **Redial**() hot key.
2. Phone will enter “**Dialed Call Log**” table.
3. Select the number you want to redial.
4. Press “**Dial**” soft key to dial out.

For more information, please see **2.2.8. Managing Call Logs**.

3.15 Setting up a Conference Call

The IP3072 can support a 3-party conference call.

To set up a conference:

1. Call the first party and Hold the call
2. Press “**NewCall**” soft key to call another party
3. Press the **Conference** () hot key to set up a 3-party conference



3.16 Transferring a Call

A call can be transferred in one of three ways:


Blind Transfer: The call is automatically transferred after you dial the number of the party to whom you want to transfer the call.

Semi-Attended transfer: The party to whom you want to transfer the call does not answer their phone before you transfer the call (when you hear ring-back tone).

Attended transfer: The party to whom you want to transfer the call answers their phone before you transfer the call. You can consult with them before completing the transfer.


3.16.1 Blind Transfer

To complete a blind transfer:

1. During an active call, press the **Transfer** () hot key.
2. The active call is placed on hold, and an entry screen is displayed for the number you want to transfer to.
3. Press **Navigation OK** or “**Dial**” soft-key to complete the transfer.
4. If you want to cancel transfer operation, just press the “**Exit**” soft-key.


3.16.2 Semi-Attended Transfer


To do Semi-Attended transfer:

1. During an active call, press “**NewCall**” soft-key to call another party.
2. When you hear the ring-back tone, press the **Transfer** () hot key.

3.16.3 Attended Transfer

To do Attendant transfer:

1. During an active call, press “**NewCall**” soft-key to call another party.
2. Wait for the other party to answer the call.
3. Press the **Transfer** () hot key.

Note: sometimes, you may place more than 2 calls on your phone, when you press Transfer () hot key, phone will show a call list to let you select a call to finish the transfer operation.

3.17 Forwarding a Call

You can configure your phone to forward your incoming call to another party, which is sometimes called as static forwarding. You can also dynamically forward calls while your phone is ringing.

There are three types of static forwarding:


- Unconditional
- No answer
- Busy

For more information on how to setup static call forwarding, please contact your administrator or Service Provider support center.

To use dynamic forwarding:

1. When the phone rings with an incoming call, press the “**Diversion**” soft-key.
2. Enter a number to forward the incoming call to.
3. Press “**Dial**” soft-key to forward the call.


3.18 Using Voice Mail

Your voicemail is saved on either your hosted SIP service or on the IP PBX, but you can access it from the IP3072 using the **Message** () hot key.

The presence of new voice mail messages is indicated by a flashing message waiting indicator (MWI) LED on the front of the phone and an icon is shown on LCD.

Note: Voicemail is an optional feature configured on a hosted SIP service or IP PBX and may not be supported on your particular system. To use voicemail on the IP3072, some settings need to be configured first. For more information please contact your administrator or Service Provider support center.

To listen your voice messages:

1. Press the **Message** () hot key to display the mailbox list.
2. Select which SIP line's mailbox you want to listen to and press "**OK**"
3. A call will be placed to your voice mail server.
4. Follow the interactive voice response (IVR) instructions to retrieve and listen, forward or delete your messages.

3.19 Placing a Speed Dial Call

To configure a speed dial number, please see Section **2.2.5 Speed Dialing Setting**.

To make a speed dial call:

1. Pickup the handset, or press a line key, or press the speaker key or press the headset key.
2. When you hear dial tone, long press the one digit (0-9, *, #) speed dial key you previously configured, the number assigned to the speed dial key will be dialed out.

4. Using Advanced Features

The **Getting Started** chapter describes the steps used to customize the IP3072 from the LCD menu of the phone. However, there are many advanced features that need to be set up using the phone's web user interface. This chapter provides instructions on how use these features.

4.1 Login Web UI

To use your web browser to configure the IP3072, you need to know the IP address of the phone on your local area network (LAN). Using the LCD menu, find the IP address of the phone under **Menu > Information > IP Address**.

1. Point your web browser to the IP address of the IP3072.
2. Enter the correct Username and Password information into the dialog box and press OK.



Note: The default Username is “**user**” and the default Password is “**1111**” and the default network settings are:

Default IP address:	192.168.1.10
Default Subnet mask:	255.255.255.0
Default Gateway:	192.168.1.1
Default DNS:	8.8.8.8

4.2 Changing the User's Password

Some features of the IP3072 require you to enter a personal identification number (PIN) for security. The default PIN of the IP3072 User account is "1111".

To change the User password:

1. Navigate to the **System** tab
2. Locate "**Account Setting**" > "**User Password:**"
3. Change the password to use a new PIN.

The screenshot displays the MOCET IP3072 Configuration web interface. At the top, the MOCET logo and 'Gateway to Communications' tagline are visible. The main header is 'IP3072 Configuration'. Below this, there are four tabs: 'Information', 'Phone', 'System' (which is selected), and 'Phonebook'. The 'System' tab is active, showing a sidebar with 'Account Setting' and 'Time Setting'. The 'Account Setting' section is expanded, showing fields for 'User Name' (set to 'user') and 'User Password' (masked with '****'). Below these are 'Auto DST' (checked), 'Daylight Saving Time' (set to 0), 'Start On' (Month: JAN, Day: 1, Time: 00:00), 'End On' (Month: DEC, Day: 31, Time: 00:00), 'Time Format' (set to USA TIME_24_HOUR), and 'Time Zone' (set to GMT+08:00 (Beijing, Hong Kong, Singapore, Taipei, ...)).

4.3 Viewing Phone Information on Web User Interface

Information is the first page you will see when you login to the phone's web user interface. This page lets you check the status of the IP Phone including network and product related information as well as account status information.

MOCET IP3072 Configuration				
Information Phone System Phonebook				
Network Information	Network Type:	DHCP	IP Address:	172.18.149.51
	Subnet Mask:	255.255.252.0	Default Gateway:	172.18.151.1
	Primary DNS:	192.168.2.7	Secondary DNS:	172.18.151.5
Product Information	Model Name:	IP3072	FW Version:	V1.0.6
	Mac Address:	00-19-15-D8-9E-EF		
Line 1 Information	Phone Number:	3920	Line Enabled:	Enable
	Registration Server:	60.250.158.234	Registration Status:	OK

Reboot Logout

For SIP Line status:

- When this line is disabled, the line status will not be displayed.
- “Registration State” will be marked “OK”.
- “Unregistered” will be marked with red text.

4.4 Changing Phone Settings

Phone Settings enables you to configure private settings for phone. Select the **Phone** tab of the web user interface to begin configuration.

From this page you can change following settings:

- Device Volume
- Tone and Ring types
- Voice parameters
- Advanced phone features (DND, Auto-answer, Call Waiting, etc)
- Speed dial settings
- Programmable key settings

Here is the description of each field.

Field Name	Function
Handset Mic	Set the input level of handset microphone.
Handset Speaker	Set the output level of handset speaker.
Handfree Mic	Set the input level of hand-free microphone.
Handfree Speaker	Set the output level of hand-free speaker.
Ring Tone Volume	Set the output level of ring.
Side Tone Volume	Set the output level of side tone.
Tone Type	Select the tone type. There are 11 types of standard Tone for selection.
Ring Type	Select the ring type. There are 11 types of standard Ring for selection.
Preferred Line	Select the SIP line automatically to dial out if not press SIP line manually when dialing.
Enable Music on Hold	Plays hold music on phone when held by remote.
Enable Auto Answer	Turn on auto answer function.
Enable DND	Turn on DND function, block any incoming all
Enable Call Waiting	Turn on call waiting function.
Enable Call Waiting Tone	Play call waiting tone when there's another incoming call.
Enable Hold Reminder	Turn on the Hold Reminder function.
Hold Reminder Time (sec)	Set the time (10~60 sec) that phone will remind user with a tone when the call hold remote every this time period.
Hotline Number	Set the hotline number

Hotline Timeout(sec)	Set the time (1~60 sec) when phone offhook but not dial, phone will dial out the hotline number automatically after this time period.
Dial Timeout (sec)	Set the time (1~30 sec) that phone will dial out automatically after this time period.
Enable Phone Lock	Lock the phone.
Phone Number Display style	Set the display style for calling name and number.
RTP Port Base	Set phone local RTP Base Port.
Speed Dialing Entry 0~9,*,#	There are 12 speed dial entries for user to store. Each entry map to the numeric keypad on the IP Phone.
Programmable Key Setting 1~8	Please refer to section 4.5 Managing programmable Keys .

4.5 Using Programmable Keys

Your IP3072 Phone has 8 programmable keys which can be configured for different features.

To use the programmable keys, just press the key, then the configured feature will be executed, some features will blink the LEDs or turn on the related features.

To configure programmable keys, go to **Phone** tab of the web user interface, and find the “**Key**” section:

MOCET Gateway to Communications **IP3072 Configuration**

Information Phone System Phonebook

Basic Advanced OCT **Key**

Function Key

Function Key 1:	Pick Up	Line Supported:	1
Key 1 Number:	1234		
Function Key 2:	Key Event	Line Supported:	Active
Key 2 Number:			
Function Key 3:	Key Event	Line Supported:	Active
Key 3 Number:			
Function Key 4:	Key Event	Line Supported:	Active
Key 4 Number:			

Function Key 1 ~ 8	Set a specified function for each function key (1-8). There are many advanced call features that you can select from the list.
---------------------------	--

Line Supported 1 ~ 6	Select a line number (1-6) which the function key assigned to.
Key 1, 2, 3, 4, 5, 6 Number	Set a number for the function key.

Programmable Key Function:

Option Name	Function
None	Set the function key as None . When pressing the function key, it will have no any action
Key Event	Set the function key as Key Event . When pressing the function key, it will perform the function as your setting. You can set one of the following key events in the "Key" field of Button Settings page. F_HOLD F_CONFERENCE F_TRANSFER F_REDIAL F_HANDSFREE F_MUTE F_CONTACTS F_MESSAGE F_HEADSET
Speed Dial	Set the function key as Speed Dial . When pressing the function key, it will dial out the phone number as your setting.
Call Blocking	Set the function key to Call Blocking . When pressing the function key, the call blocking setting is enabled, and the LED of the function key becomes blue. When the blocking number calls you, your IP Phone will reject the call automatically, and show a missed call icon on the standby screen.
Auto Answer	Set the function key to Auto Answer . When pressing the function key, the Auto Answer setting is enabled and the LED of the function key becomes blue as well as the Auto Answer icon displays on the top line bar. No matter any number calls you, your Web IP Phone will pick up calls automatically.

DND	Set the function key to DND (Don't Disturb). When pressing the function key, the DND setting is enabled and the LED of the function key becomes blue as well as the DND icon displays on the top line bar. No matter any number calls you, your Web IP Phone will not have any incoming call displayed, and only show a missed call icon on the standby screen.
Anonymous Call Blocking	Set the function key to Anonymous Call Blocking . When pressing the function key, the Anonymous Call Blocking setting is enabled and the LED of the function key becomes blue. When any anonymous call calls you, your IP Phone will reject the call automatically, and show a missed call icon on the standby screen.
Phone Lock	Set the function key to Phone Lock . When pressing the function key, the Phone Lock setting is enabled and the LED of the function key becomes blue. You will need to enter a password to unlock your Web IP Phone. The default password to unlock phone is 1234.
Transfer	Set the function key as Transfer . When you have an incoming call, if you press the function key, the incoming call will be transferred to the phone number as your setting.
Call Forward Always	Set the function key to Call Forward Always . When pressing the function key, the Call Forward Always setting is enabled, and the LED of the function key becomes blue. Your IP Phone will forward any incoming calls to the number as your setting.
Call Forward Busy	Set the function key to Call Forward Busy . When pressing the function key, the Call Forward Busy setting is enabled, and the LED of the function key becomes blue. Your IP Phone will forward any incoming calls to the number as your setting when your IP Phone is off hook or during a call.
Call Forward No-Answer	Set the function key to Call Forward No-Answer . When pressing the function key, the Call Forward No-Answer setting is enabled, and the LED of the function key becomes blue. Your IP Phone will forward any incoming calls to the number as your setting when the call does not be picked up in time.

Voice Record	<p>Set the function key to Voice Record. When the "Record" key is pressed once during a call, the phone sends a SIP INFO message with * Record: on. Another key press stops the recording, makes the phone send a SIP INFO message with * Record: off.</p> <p>Please be aware that the phone is only triggering the start and end of the recording on a remote location which has to perform the recording itself. The phone does not record the voice streams at all.</p>
Busy Line Field	<p>Set the function key to Busy Line Field. When the set number is busy, the LED of the function key is on. If the LED of the function key is off, you can press the function key to dial out the set number directly. When the set number is ringing, the LED of the function key is blinking, and if you press this key, you can pick up the ringing call.(for Asterisk PBX only)</p>
Orbit	<p>Set the function key as Orbit. When pressing the function key during a call, it will park the call in the parking lot as your setting. This feature is useful for call center environments and all places where there is a great inflow of calls and some kind of queuing is required to manage them.</p>
Pick Up	<p>It's used for SLA/BLA mode, using this feature can pick up a ringing call on other phone. Note the SIP server should support SLA. This function has been tested with FreeSwitch.</p>
Call Pick Up	<p>Set the function key as Pick Up. When pressing the function key, it will pick up the call in the parking lot as your setting.</p> <p>Note: To use this function, your server, such as Asterisk, must support this function.</p>
Call Park	<p>Call Park is similar to Orbit, using this feature will transfer a call to a park queue on server, a park queue number should be configured.</p> <p>Note: To use this function, your server must support this function.</p>
DTMF	<p>Set the function key to DTMF. When pressing the function key during a call, the digits set in DTMF setting will be sent out. To use this function, please set DTMF type as RFC2833. It's configurable only in Administration mode.</p>

Intercom	Set the function key as Intercom . When pressing the function key, it will dial out the phone number directly as your setting. This feature is useful in an office environment as a quick access key to connect to the operator or the secretary.
Save Settings	Save changes in this page to the phone.
Cancel	Discard all changes in this page.
Logout	Logout and close the browser window

4.6 Changing System Settings

On the System tab, the user can access or change:

- Account Setting
- Time settings

The screenshot shows the MOCET IP3072 Configuration web interface. The top navigation bar includes tabs for Information, Phone, System (selected), and Phonebook. The left sidebar shows 'Account Setting' and 'Time Setting' options. The main content area displays the following settings:

- User Name:** user
- User Password:** ****
- Auto DST:** ☒
- Daylight Saving Time:** 0
- Start On:** Month: JAN, Day: 1, Time: 00:00
- End On:** Month: DEC, Day: 31, Time: 00:00
- Time Format:** USA TIME_24_HOUR
- Time Zone:** GMT+08:00 (Beijing, Hong Kong, Singapore, Taipei, ...)

At the bottom, there are several action buttons: Save settings (green), Cancel (red), Logout (red), System Log (blue), Set to Default (blue), Clear Phonebook (blue), and Set All to Default (blue).

Field Name	Function
User Name	Set the name for user mode (default: user)
User Password	Set the password for user mode(default: 1111)
Auto DST	Enable auto DST (daylight saving time).
Daylight Saving Time	Set a value for Daylight Saving Time. There are three

	options, -1, 0 and 1.
Start on	Set start time for DST.
End on	Set end time for DST.
Time Format	Select a time format showed on the phone LCD display.
Time Zone	Set a time zone for the phone.
<hr/>	
Save Settings	Save changes in this page to the phone.
Cancel	Discard all changes in this page.
Logout	Log out and close the browser window.
System Log	Press the button to pop up the system log web page.
Set to Default	Press the button to set all parameters of the phone to default. The phone will auto reboot to make new parameters take effect.
Clear Phonebook	Press the button to clear up the private phonebook data of the phone.
All Default	Press the button to set all parameters of the phone to default as well as clear all phonebook data. The phone will auto reboot to make new parameters take effect.

4.7 Managing EDM

The EDM setting page appeared only when the EDM is plugged into the phone. The user can configure the 24 programmable keys of each EDM. For the detailed setting options, please refer to the section **4.5 Managing Programmable Keys**.

Field Name	Function
EDM Button 1, 2,...,24	Set a function for the EDM key. (Refer to the Programmable Key function in the table of section 4.5)
Line 1, 2, ... , 6	Select a line for the EDM key.
Button 1, 2, ... , 11 Number	Set a number for the EDM key.

4.8 Managing Phonebook

On the **Phonebook** tab, the user can manage his phone directories.

4.8.1 Private Phonebook

For the Private Phonebook, the user can add, edit, delete or dial an entry directly from the web page. The user can also upload his contacts from a file using a web browser. The Private Phonebook can have up to 100 contacts.

Field Name	Function
Upload Phonebook File	Upload "PhoneBook.xml" to the private phonebook.
Download Phonebook	Download the current phonebook data from the phone.
Group	Set a group for a phonebook item
CallOut	Call the phonebook number via web page. It is similar to click-to-dial feature.
Delete	Delete the phonebook number via web page.

Placing a Call from the Private Phonebook

When you click the **CallOut** button to place a call to a private contact, a new Window will be displayed:



The windows will be closed after the number is dialed out.

4.8.2 Public Phonebook

For the Public Phonebook, a user or administrator can upload a file using a web browser.




Field Name	Function
Upload Phonebook File	Upload phonebook data from the computer to the public phonebook of the phone. Please note that public phonebook data is read only, user can't edit the data.

4.9 XML Web Services

The **XML Web Services** will be offered thru the XML Server that may support different applications for users. For example, you can view on-line directory, weather, news, currency and stocks information in **XML Web Services**. Moreover, you can order meal and control remote devices in this menu. However, all contents in the **XML Web Services** depend on the offerings of your company XML Web server or your service provider that they can support. For **XML Web Services** application requirements, please contact with your Administrator or Service provider for details.

There are two ways to access the XML Web Server:

1. Press **Applications** soft-key → **XML Browser** . or,

2. Press "Menu"  → **XML Browser** .

5. Using Advanced Call Features

5.1 Call Waiting

The call waiting feature notifies the user on an active call of a new incoming call. You can disable the call waiting feature, so that the new incoming call is automatically rejected by the phone with a busy message.

If you disable call waiting on the phone, and the user is on a call, any further incoming calls receive busy unless “Call Forward Busy” is configured on the phone, where it then forwards the call according to the configured destination.

5.2 Intercom Call

5.2.1 Answering an Intercom Call

By default, the IP phone allows incoming intercom calls to be automatically answered on your phone. If the intercom call comes into the phone while an active call is already present, the phone puts the active call on hold and answers the intercom call.

5.2.2 Placing an Intercom Call

The Intercom call feature depends on PBX/SIP Server as there are different intercom call codes for each servers; for example, the Asterisk default intercom code is “*80”.

To place intercom call on an Asterisk server, you may just make a call to “*80”+[destination number] (“*801001” for example). For other phone systems or hosted SIP services, please contact your administrator or Service Provider for more information.

6.. Using USB Accessories with Your Phone

6.1 USB Keyboard

When attaching a USB keyboard on your phone, there will be a USB keyboard icon on the LCD screen.

When USB keyboard is connected, you can:

- Dial phone number
- Edit Phonebook
- Edit Speed Dial
- Edit Instant Message
- Edit Programmable Keys fields and EDM fields

7. Troubleshooting

<i>Symptom</i>	<i>Check & Remedy</i>
No operation	<ul style="list-style-type: none">• Check if the power adapter is properly connected.• Check if the Ethernet cable is properly connected
No dial tone	<ul style="list-style-type: none">• Check if the handset cord is properly connected.• Check if the power adapter is properly connected.
LAN connection lost status message	<ul style="list-style-type: none">• Check if the Ethernet cable is properly connected.
Cannot make call	<ul style="list-style-type: none">• Check the status of your SIP registration status or contact your administrator, supplier or ITSP for more information or assistance.
Cannot receive a call	<ul style="list-style-type: none">• Check if the Ethernet cable is properly connected.• Check the status of your SIP registration status, or contact your administrator, Distributor (dealer) or ITSP for more information or assistance.
Cannot connect to the IP3072 configuration pages with a browser	<ul style="list-style-type: none">• Check if the Ethernet cable is properly connected.• Check the IP address of the IP Phone.• Check if your firewall/NAT settings is correct.

8. Glossary

8.1 Acronyms

ANC	Anonymous Call
APS	Auto-Provisioning Server
B2BUA	Back to Back User Agent
CA	Certificate Authority
CID	Caller ID
CODEC	Coder and Decoder of Voice
CNG	Comfort Noise Generation
CPC	Calling Party Control
CPE	Customer Premises Equipment
CWCID	Call Waiting Caller ID
CWI	Call Waiting Indication
CWT	Call Waiting Tone
DHCP	Dynamic Host Configuration Protocol
DNS	Domain Name Server
DTMF	Dual Tone Multiple Frequency
ETSI	European Telecommunication Standard
FQDN	Fully Qualified Domain Name
FSK	Frequency Shift Keying
HTML	Hypertext Markup Language
HTTP	Hypertext Transfer Protocol
ICMP	Internet Control Message Protocol
IETF	Internet Engineering Task Force
IP	Internet Protocol
ISP	Internet Service Provider
ITSP	IP Telephony Service Provider
IVR	Interactive Voice Response
LAN	Local Area Network
LBR	Low Bit Rate
LBRC	Low Bit Rate Codec
MWI	Message Waiting Indication
PoE	Power over Ethernet (IEEE802.3af standard)
PPPoE	Point-to-point protocol over Ethernet (mainly for xDSL modem connection)
PSTN	Public Switched Telephone Network
NAT	Network Address Translation
NTP	Network Time Protocol
RTP	Real Time Protocol
RTCP	Real Time Control Protocol
SDP	Session Description Protocol
SIP	Session Initiation Protocol
TFTP	Trivial File Transfer Protocol
TCP	Transmission Control Protocol
UDP	User Datagram Protocol
URL	Uniform Resource Locator
VLAN	Virtual Local Area Network
WAN	Wide Area Network
XDSL	Digital Subscriber Loop, such as ADSL, VDSL, HDSL, etc.,....
XML	Extensible Markup Language

8.2 Terminology

10/100BASE-T	It is a LAN transmission line specification stipulated by IEEE. Transmission speed is 10 or 100 Mbps and the modulation technique is base-band modulation. The cable uses unshielded twisted pair, similar to a telephone wire. 10BaseT is an IEEE standard (802.3) for operating 10 Mbps Ethernet networks (LANs) with twisted pair cabling and a wiring hub.
802.1p	An IEEE standard for providing QoS using three bits (defined in 802.1q) to allow switches to reorder packets based on priority level.
802.1q	An IEEE standard for providing virtual LAN (VLAN) identification and QoS levels. Three bits are used to allow eight priority levels, and 12 bits are used to identify up to 4,096 VLANs.
AGC	Automatic Gain Control is a feature of IP solutions units that allows the units to automatically adjust the incoming voice signal to a user defined level in dBm.
A-law	The PCM coding and compression standard used in Europe and in areas outside of North America influence. A Law Encoding is the method of encoding sampled audio waveforms used in 2.048Mbps, 30 channel PCM primary system known as E-carrier.
Auto answer	In telephone call control: The capability of a machine to answer a ringing telephone without human intervention.
Autodial	In telephone call control: An auxiliary device for a telephone that automatically dials any of a group of prerecorded telephone numbers.
Blocked Calls	Caused by an insufficient network facility that does not have enough lines to allow calls to reach a given destination. May also pertain to a call from an originating number that is blocked by the receiving telephone number.
Call Completion	The point at which a dialed number is answered.
Call Termination	The point at which a call is disconnected.
CDR	In telephone call control: Call Detail Record for billing
IP Centrex	This service is offered by the LEC to the end user. The feature-rich Centrex line offers the same features and benefits as a PBX to a customer without the capital investment or maintenance charges. The LEC charges a monthly fee to the customer, who must agree to sign a term agreement. And the above service is thru VoIP called IP centrex.
CO	Switching center for the local exchange carrier.

CODEC	The CODEC (CODER/DECODER) is a standard through which voice information can be encoded into data or decoded back to voice information. Both a Coder and Decoder are necessary on both sides of the telephone call since telephone calls occur simultaneously in both directions. Bandwidth is an extremely important factor in QOS (Quality of Service). MOS (Mean Opinion Score) is an attempt to make a quantifiable benchmark of voice quality. Below are examples of the CODEC, bit rate and mean opinion score: G.711 (toll quality) 64K MOS=4.1, G.726 16K (32K) MOS =3.8, G.729AB (cell phone quality) 8K MOS=3.7.
Customer Premise Equipment	The only part of the telecommunications system that the customer comes into direct contact with. Example of such pieces of equipment are: telephones, key systems, PBXs, voicemail systems and call accounting systems as well as wiring telephone jacks. The standard for this equipment is set by the FCC, and the equipment is supplied by an interconnect company.
DHCP	A utility that enables a server to dynamically assign IP addresses from a predefined list and limit their time of use so that they can be reassigned. Without DHCP, an IT Manager would have to manually enter in all the IP addresses of all the computers on the network. When DHCP is used, whenever a computer logs onto the network, it automatically gets an IP address assigned to it.
DID	Direct Inward Dialing: The ability to make a telephone call directly into an internal extension without having to go through the operator.
Diff-Serv	Differentiated Services : The Diff-Serv model divides traffic into a small number of classes to provide quality of service (QoS). One of QoS in internet
Direct inward dialing	A Centrex feature that allows an outside caller to dial a central business number, as well as an extension number.
Diversity antenna	A type of antenna system that uses two antennas to maximize reception and transmission quality and reduce interference.
DNS	Domain Name Service : A server/program that translates URLs to IP addresses by accessing a database maintained on a collection of Internet servers. The program works behind the scenes to facilitate surfing the Web with alpha versus numeric addresses. A DNS server converts a name like mywebsite.com to a series of numbers like 107.22.55.26. Every website has its own specific IP address on the Internet. Typically one or more DNS servers is located in an IP network.
DSL	Various technology protocols for high-speed data, voice and video transmission over ordinary twisted-pair copper POTS (Plain Old Telephone Service) telephone wires.

DSP	Digital Signal Processors (DSP) standardize the different states of a digital signal into an organized and understandable signal. DSP circuits can differentiate between digital signals and digital noise. Signal-to-Noise ratio is one of the most important factors in telephony voice communication because if there is too much noise in a signal, the DSP will be unable to find a signal standard and lose it. DSP circuits always adjust digital signal levels so they can maintain a standard without noise.
DTMF	Dual Tone Multi-Frequency: The type of audio signals generated when you press the buttons on a touch-tone telephone. Can be used in inbound(after voice channel connected) and outbound(before voice channel connected) application.
Ethernet	International standard networking technology for wired implementations. Basic 10BaseT networks offer a bandwidth of about 10 Mbps. Fast Ethernet (100 Mbps) and Gigabit Ethernet (1000 Mbps) are becoming popular.
G.711	64 kbps PCM half-duplex codec (high quality, high bandwidth, minimum processor load)
G.723.1	6.4/5.3 kbps MP-MLQ codec (low quality, low bandwidth, high processor load due to the compression)
G.726	40/32/24/16 ADPCM codec (good quality, medium bandwidth, low processor load)
G.729	8 kbps ACELP codec (medium quality, low bandwidth, high processor load)
IEEE	Institute of Electrical and Electronics Engineers, New York, www.ieee.org . A membership organization that includes engineers, scientists and students in electronics and allied fields. It has more than 300,000 members. The IEEE is an international organization that develops standards for hundreds of electronic and electrical technologies for computers and communications. The organization uses a series of numbers, like the Dewey Decimal system in libraries, to differentiate between the various technology families.
IP (Internet Protocol)	Internet Protocol is located at 3rd layer of ISO network model. A set of rules used to send and receive messages at the Internet address level. IP protocol is widely used in Internet and LAN networks. The purpose is to deliver data between computing equipment over the network. The protocol is generally effective but does not guarantee complete and accurate data communications.
IP address	A 32-bit number that identifies each sender or receiver of information that is sent across the Internet. An IP address has two parts: an identifier of a particular network on the Internet and an identifier of the particular device (which can be a server or a workstation) within that network. A number used to identify the location of a host device. It is expressed in numeric dot notation (e.g. 202.203.27.31).

IP Centrex	This service is offered by the LEC to the end user. The feature-rich Centrex line offers the same features and benefits as a PBX to a customer without the capital investment or maintenance charges. The LEC charges a monthly fee to the customer, who must agree to sign a term agreement. And the above service is thru VoIP called IP centrex.
Jitter	Jitter refers to fluctuations in transmission delay time. In the case of voice data, conversations are packaged into packets (IP packetization) and transmitted. Individual packets can take different routes through the varied networks that comprise the Internet. When the time interval for the arrival of the packets is not constant the timing fluctuations that may occur are referred to as "jitter".
MAC	Medium Access Controller (MAC) : The IEEE 802.11 Standard encompasses the physical layer (PHY) and the lower portion of the data link layer. The lower portion of the data link layer is often referred to as the Medium Access Controller (MAC) sublayer. Every wireless 802.11 device has its own specific MAC address hard-coded into it. This unique identifier can be used to provide security for wireless networks. When a network uses a MAC table, only the 802.11 radios that have had their MAC addresses added to that network's MAC table will be able to get onto the network.
NAT	Network Address Translation : A network capability that enables a houseful of computers to dynamically share a single incoming IP address from a dial-up, cable or xDSL connection. NAT takes the single incoming IP address and creates new IP address for each client computer on the network.
Numbering plan	In a communications network, a numbering plan allocates specific numeric codes to identify each subscriber line, special lines, trunk lines, etc. Numbering plans can be divided into the numbering system and number assignments. The numbering system indicates the number of digits to be assigned and the basic scheme of number assignment. The assignment of specific codes is performed according to the numbering system.
PBX	Private Branch eXchange :An in-house telephone switching system that interconnects telephone extensions to each other as well as to the outside telephone network.
Peer-to-peer network	A wireless or wired computer network that has no server or central hub or router. All the networked PCs are equally able to act as a network server or client, and each client computer can talk to all the other wireless computers without having to go through an access point or hub. However, since there is no central base station to monitor traffic or provide Internet access, the various signals can collide with each other, reducing overall performance.
POTS	Plain Old Telephone Service (POTS), or Pretty Old Telephone System is the standard analog traditional telephone service that most homes use. In contrast, telephone services based on high-speed, digital communications, such as ISDN and DSL, are not POTS. The main distinctions between POTS and non-POTS services are speed and bandwidth.

Proxy server	Used in larger companies and organizations to improve network operations and security, a proxy server is able to prevent direct communication between two or more networks. The proxy server forwards allowable data requests to remote servers and/or responds to data requests directly from stored remote server data.
PSTN	Public Switched Telephone Network: The worldwide voice telephone network.
QoS	Quality of service (QoS)
RJ-45	Standard connectors used in Ethernet networks. Even though they look very similar to standard RJ-11 telephone connectors, RJ-45 connectors can have up to eight wires, whereas telephone connectors have only four.
Router	A device that forwards data packets from one local area network (LAN) or wide area network (WAN) to another. Based on routing tables and routing protocols, routers can read the network address in each transmitted frame and make a decision on how to send it via the most efficient route based on traffic load, line costs, speed, bad connections, etc.
RTP/RTCP	Real-Time Protocol/Real-Time Control Protocol(RTP / RTCP) : IETF specifications for audio and video signal management. Allows applications to synchronize and spool audio and video information. RTP (Real Time Protocol) is specifically concerned with the dependable transmission of latency-sensitive traffic across the network and is involved in using time stamping to determine network jitter tolerance and makes sure that voice packets are arriving in order.
SIP	Session Initiation Protocol :A protocol that provides telephony services similar to H.323, but is less complex and uses less resources. SIP (Session Initiation Protocol) is a signaling protocol for Internet conferencing, telephony, presence, events notification and instant messaging. SIP is a text-based protocol, similar to HTTP and SMTP, for initiating interactive communication sessions between users.
Subnetwork or Subnet	Found in larger networks, these smaller networks are used to simplify addressing between numerous computers. Subnets connect to the central network through a router, hub or gateway. Each individual wireless LAN will probably use the same subnet for all the local computers it talks to.
TCP/IP	Internet Standard Protocol: The underlying technology behind the Internet and communications between computers in a network. The first part, TCP, is the transport part, which matches the size of the messages on either end and guarantees that the correct message has been received. The IP part is the user's computer address on a network. Every computer in a TCP/IP network has its own IP address that is either dynamically assigned at startup or permanently assigned. All TCP/IP messages contain the address of the destination network as well as the address of the destination station. This enables TCP/IP messages to be transmitted to multiple networks (subnets) within an organization or worldwide.

TOS	Type of Service: A method of setting precedence for a particular type of traffic for QoS.
UDP	User Datagram Protocol. An unreliable networking layer that sits at the same level of the networking stack as TCP. UDP is a connectionless transport protocol that is part of a suite of protocols (the others being RTP and IP) that allow for the timely and efficient transfer of voice data across an IP network. UDP is the better transport protocol for VoIP data than TCP.
VAD	Voice Activity Detection (VAD) helps save bandwidth during calls. Examples: When you're making a VoIP call and you're not speaking and you're listening, that silence is still taking up bandwidth during the call. When silence is detected by VAD software over a predetermined length of time, it sends silent packets that inform other VAD-enabled systems to stop holding the bandwidth for these empty packets.
VoIP	Voice Over Internet Protocol: VoIP is based on the principle of transmitting digitized voice packets over networks. Basically, VoIP consists of converting voice signals into streams of digital packets and sending those packets of data through an IP-constructed network environment. VoIP can work in both LAN (local area network) and WAN (wide area network) environments for intranetwork or internetwork communication between VoIP channel users. Routers and switches and other special compression protocols direct the packetized voice data to their destination IP address. VoIP can be less expensive than voice transmission using standard analog packets over POTS (Plain Old Telephone Service). It allows telephone calls, faxes, or overhead paging to be transported over an existing IP data network topology.
VPN	Virtual Private Network (VPN) is a virtual created sub-network based on a public real network. A type of technology designed to increase the security of information transferred over the Internet. VPN can work with either wired or wireless networks, as well as with dial-up connections over POTS. VPN creates a private encrypted tunnel from the end user's computer, through the local wireless network, through the Internet, all the way to the corporate servers and database.
WAN	Wide Area Network: For global or long distance networking access through the support of telecommunication devices. A communication system of connecting PCs and other computing devices across a large local, regional, national or international geographic area. Also used to distinguish between phone-based data networks and Wi-Fi. Phone networks are considered WANs and Wi-Fi networks are considered Wireless Local Area Networks (WLANs).
WLAN	Also referred to as LAN. A type of local-area network that uses high-frequency radio waves rather than wires to communicate between nodes.

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